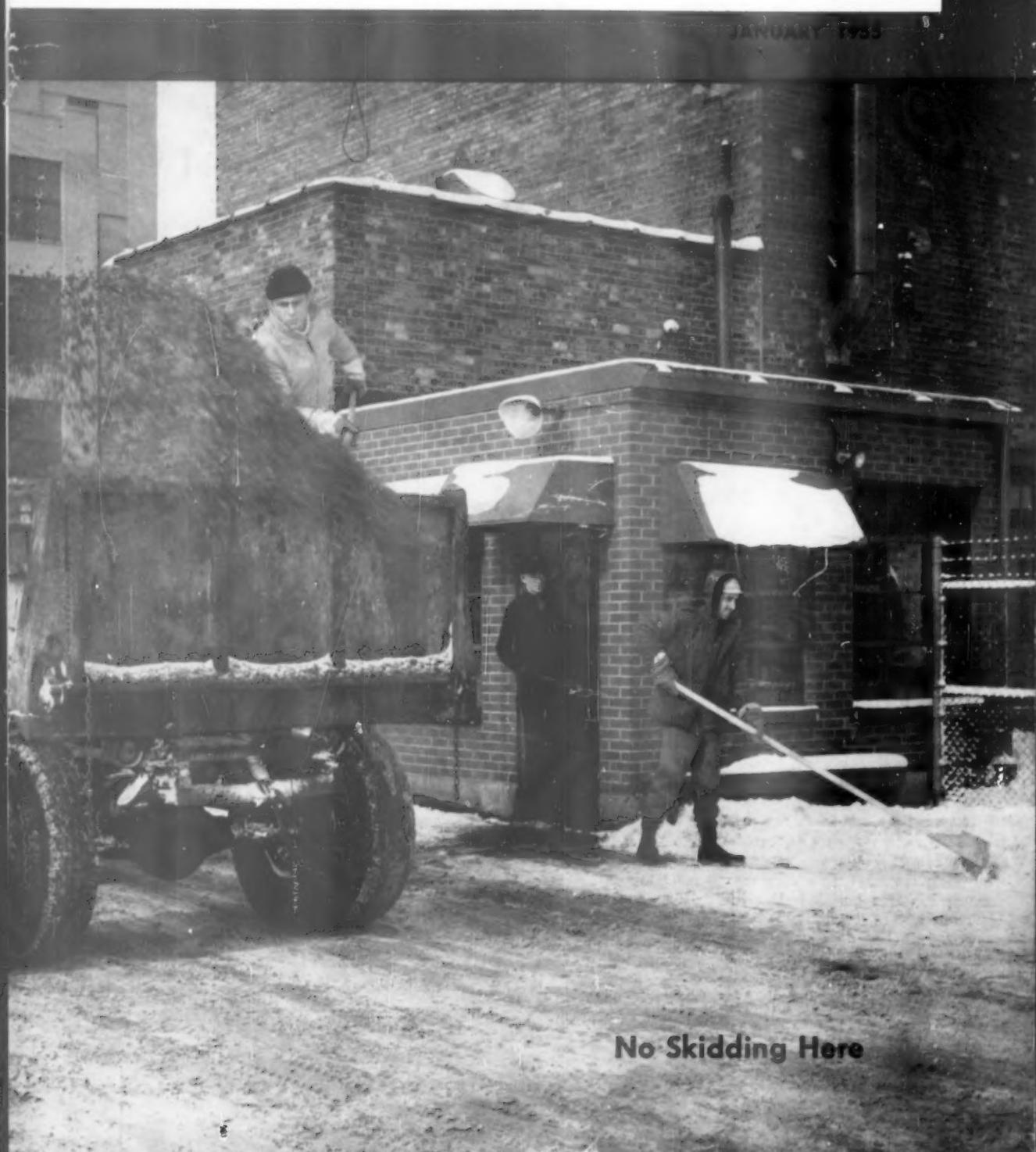


national

SAFETY NEWS



No Skidding Here



THIS "PEDIGREE"
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M·S·A FIRST AID KITS

Maximum freshness, sterility, and purity in every Unit "D" package in the New M.S.A. First Aid Kit is certified by M.S.A.'s Modernization Program. The latest and most scientific devices and methods for inspecting, testing, sterilizing, and manufacturing are constantly at work to maintain the highest standard in First Aid Kit quality and performance.

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Scientific Advance in Head Protection

Internal as well as External head protection achieved by patented "geodetic" suspension in New Willson Super-Tough® Hats and Caps

Realizing that most fatal head injuries are due to shock to the brain rather than injury to the skull, the Cornell Aeronautical Laboratories designed and patented a new suspension system for industrial safety hats that provides maximum protection and comfort to the wearer.

This patented suspension is available only in Willson Super-Tough® Hats and Caps!

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Please send me your bulletin on the new Willson Super-Tough® Hats and Caps with "geodetic" crown straps and "pneumatic" head band.

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SAFETY NEWS

Published monthly by National Safety Council

JANUARY, 1955

THE COVER: Cinders on icy driveways keep wheels and feet from skidding at Studebaker's South Bend, Ind., plant. (Photo courtesy The Spotlight)

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Statements and opinions advanced in signed articles are personal expressions of the authors, not necessarily those of the National Safety Council.

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expressly
designed to **resist**
chemical
corrosion

Many widely used chemicals literally "eat" ordinary leather and rubber. Foremen and employees in chemical plants and processing operations are all too familiar with having practically new shoes fall apart under them. Lehigh has developed this shoe specifically to give normal wear and service under such conditions. The upper leather is a hardy Eskimo-tannage that resists both abrasion and corrosive dust, fumes and splatters. The sole is extra-weight Neoprene composition — the material used for chemical ducts and hoses. Laces are rawhide. The stormwelt is plastic. Seams are sewn with Dacron. Even the counter *inside* the shoe is tough vinyl that holds its shape better than leather. Wherever ordinary shoes rot and crumble, put your men in CHEMASTERS*. Naturally, they include the same time-tested steel toe protection as all other Lehighs.

*T. M. Reg.

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SAFETY SHOE COMPANY

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THREE TYPES of awards are given by the National Safety Council to industrial units in recognition of outstanding performance in accident prevention:

1. **THE AWARD OF HONOR** is available to units whose records, though not perfect, meet rigorous standards of excellence. These standards take into account the previous experience of the unit as well as the experience of the industry in which it operates. A unit must qualify on both frequency rate and severity rate. The Award of Honor is available also to units which complete 3,000,000 man-hours without a disabling injury.

2. **THE AWARD OF MERIT** has similar, but less exacting, requirements. Minimum number of injury-free man-hours needed to qualify is 1,000,000.

3. **THE CERTIFICATE OF COMMENDATION** is available only for injury-free records covering a period of one or more full calendar years and totaling 200,000 to 1,000,000 man-hours.

Details of eligibility requirements may be obtained by writing to the Statistical Division, National Safety Council.



AWARDS OF HONOR

Allis-Chalmers Manufacturing Co., La Crosse (Wis.) Works.

Ford Motor Co., Louisville Assembly Plant.

General Electric Co., Ballast Department, Danville, Ill.

International Business Machines Corp., Plant No. 1, Endicott, N. Y.

Kentucky Synthetic Rubber Corp., Louisville, Ky. Entire company.

Lukens Steel Co., Coatesville, Pa. Entire company.

Monsanto Chemical Co., John F. Queeny Plant, St. Louis, Mo.

Radio Corp. of America, Camden (N. J.) Plant.

Southwestern Public Service Co., Amarillo, Texas. Entire company.

United States Rubber Co., Ball Band Plant.

Western Electric Co., Inc., Hawthorne Works, Chicago.

AWARDS OF MERIT

Aluminum Co. of America, Edgewater (N. J.) Works.

Axelson Manufacturing Co., Los Angeles Division.

Blaw-Knox Co., Chemical Plants Division, AEC Operations.

British American Oil Co., Ltd., Montreal East Refinery.

Coates & Clark, Inc., Pawtucket (R. I.) Plant.

Ford Motor Co., Two awards: Chicago Assembly Plant; Monroe Plant.

Jones & Laughlin Steel Corp., Pittsburgh Works Division.

Kendall Cotton Mills, Two awards: Thrift Plant, Paw Creek, N. C.; Mollohon Plant, Newberry, S. C.

Rheem Manufacturing Co., Two

awards: Government Products Division, Downey, Calif., Linden Plant, Chicago.

Sylvania Electric Products, Inc., Radio and Television, Williamsport, Pa.

United States Steel Corp., American Bridge Division, Ambridge (Pa.) Plant.

Lower Death Rates Stabilize Families

Declining mortality has had a stabilizing influence upon family life in the United States by decreasing the chances that the family circle will be broken by loss of a parent while the children are young, according to the Metropolitan Life Insurance statisticians.

In families with young children chances are currently less than 1 in 100 that one of the parents will die within a year, it is reported.

This example is cited: in a family where the husband is 20 years old, the wife 19, and there is one child, an infant, the chances are only 9 per 1,000 that the husband will die within five years, and only 10 per 1,000 that either the wife or the child, or both, will die within that period.

Probabilities of death within five years are greater for larger families and also where parents are older. Thus, chances of death within five years increase to 15 per 1,000 for the father who is 35 years of age and to 17 per 1,000 for at least one other member of a family which includes a wife and three children.

Each year more than 700,000 families are broken by the death of husband or wife.

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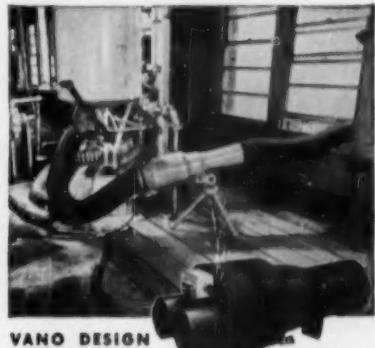
Improve workers' safety... health... comfort... efficiency



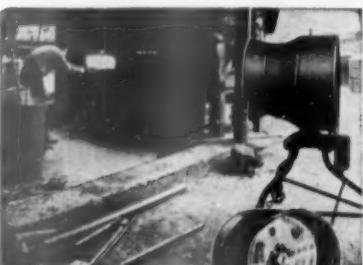
VANO DESIGN "A" VENTILATOR is used here during repairs to a chemical still. This type ventilator is used to ventilate tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages and other confined places. Uses 8" diameter flexible canvas tubing ("Ventube").



VANO DESIGN "B" VENTILATOR here discharges welding fumes from double-bottom compartment in naval vessel under construction. Large volume of air handled quickly expels fumes and results in good ventilation. Vano Design "B" can pass through opening only 14" in diameter. Uses 8" diameter flexible canvas tubing ("Ventube").



VANO DESIGN "C" VENTILATOR here withdraws fumes from a reactor kettle. This ventilator can be furnished with 8" suction inlet for 8" non-collapsible suction tubing — or multiple inlet nozzles for 5", 4", and 3" suction hose. The discharge may be connected to 8" "Ventube." Capacities furnished on request.



NO. 2 AEROPLANE HEAT KILLER here directs cool, fresh air on worker in drop forge plant. Heat killers restore workers' efficiency by providing extra ventilation in the hot months, or on any job where workers are continually or periodically required to work in excessive heat. Available in two types, three sizes in each.



VENTAIR DESIGN TE-4 VENTILATOR Gasoline Engine Driven, here delivers air into underground manhole. These ventilators provide fresh air to men in confined places, promoting safety, comfort, and increasing efficiency. Ideal where no electric current is available. Delivers 1700 CFM of fresh air. Uses 8" diameter flexible canvas tubing ("Ventube").



PORTAIR NO. 4 BLOWER EXHAUSTER exhausts fumes resulting from soldering, welding, tank coating, is also used in ventilating small tanks. It is designed to permit attachment of 4" flexible metal hose. Capacity: 425 CFM free air.

ATTACH THIS COUPON TO YOUR COMPANY LETTERHEAD

COPPUS ENGINEERING CORPORATION, 121 PARK AVENUE, WORCESTER 2, MASS. Sales offices in Thomas' Register, Other "Blue Ribbon" Products in Chemical Engineering Catalog, Refinery Catalog, Best's Safety Directory and Mining Catalogs.

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- in tanks, tank cars, drums, etc.
 - in underground cable manholes
 - in aeroplane fuselages, wings, etc.
 - on coke ovens
 - on steam-heated rubber processes
 - on boiler repair jobs
- COOLING:**
- motors, generators, switchboards
 - wires and sheets
 - general men cooling
 - around cracking stills
 - exhausting welding fumes
 - stirring up stagnant air
 - wherever men are working or material is drying
 - drying of walls, sheets, etc., after treated with cooling material

Write here any special ventilating problem you may have {

Name
 Company
 Address
 City Zone State

THE SAFETY VALVE



Holding pressure in lines to meet
REFERENCE

Another Job for Doc

THE FAMILY DOCTOR should be a teacher of driver safety, says an M.D., a professor of public health at one of the country's most famous universities.

"Who is better qualified, or in a more strategic position to do this important teaching work?" the professor asks. "The doctor has immediate personal access to the family unit, he enjoys their complete confidence, and he knows through his treating of countless highway injuries the urgency of doing this work."

"Physicians, with a knowledge of the biological sciences, can aid the safety experts with safer designing of equipment. Accident prevention information should be introduced into courses of preventive medicine in our medical schools, as well as additional work in traumatic surgery."

Most doctors, I'm sure, would be glad to help. I remember one out in our town who was quite safety-minded and used to drop in at meetings of our volunteer safety council, often when he obviously needed a quiet evening at home.

Other members of the profession are undoubtedly anxious to help within the limitations of time and energy. But a look in at a typical doctor's waiting room or a glance at his list of house calls, especially during the sniffle season, should convince us that we can't expect too much help from that source. And just how much specific know-how he has acquired in accident prevention is also uncertain.

Also, there are quite a few people, like myself, who would not be exposed to very much education from this source. For years I had been mailing checks to our family doctor but recently met him for the first time around the punch bowl at a wedding reception.

Enterprising undertakers, I've heard, have carried messages in their ads urging prospective users of their services to drive carefully—they'd gladly wait. An M.D., of course, can't advertise but he might add a similar notation to his statements—if he could be sure his patients wouldn't think he was referring to payment of the bill.

Writing to the Editor

RECENTLY this department carried a short piece about the privileges allowed the author of a by-line article and the responsibility of the editor for the author's statements.

Summing up the situation from the publication's point of view, a writer may express opinions at

variance with those of the editors, and, indeed, most of the readers. If they are very radical, an editorial box may express disagreement while permitting publication in the interests of free discussion. This tolerance, however, does not cover material likely to be harmful to the public welfare.

In the letters to the editor department (called *The Reader's Point of View* in this publication)—readers can really tell what's on their minds. Comments, favorable or otherwise, on articles in recent issues and on current problems are always welcome.

Anything that might bring a libel suit or hold an author up to scorn is, of course, unacceptable. The only person you can insult is the editor.

In this Issue . . .

Like an old time sermon, Ford's safety program, as described by John S. Bugas, has 14 points. Principles and techniques, like those used successfully in industry, he points out, can be helpful in dealing with the larger accident problems outside the plant gates. (Page 18)

* * *

Don't let the title of this article scare you. "Ergonomics" is merely "human engineering," a term which fell into disrepute through loose use. The program outlined by Professor Theodore F. Hatch for consideration by the American Society of Mechanical Engineers puts this important field of science on a really scientific basis. Briefly, its objective is to consider the man as well as production in designing the working environment and working facilities according to human capacities. The combined efforts of psychologists, physiologists and engineers will be needed to prevent undue emotional and physical stresses on the individual in an increasingly complex age. (Page 20)

* * *

Through the American Standards Association, many groups are contributing to industrial efficiency, safety and higher standards of living. The role of the American Society of Safety Engineers in this work is described by Henry B. Duffus. (Page 22)

* * *

To her very sound ideas on safety promotion, Mrs. Jean Wade Rindlaub has added some observations as a parent and public-spirited citizen of her community. Like Mrs. Rindlaub, many a parent has lost sleep while the children were exposed to the hazards of the highway. Recently my wife expressed a feeling of relief that our daughter was past the dating stage and our grandchildren were still too young to be out nights. (Page 24)

* * *

Are you one of those people who regard every strange pooch as a possible Hound of the Baskervilles? Read this advice on etiquette when meeting dogs written by an expert on canine psychology. It might save you a nip some time. (Page 34)

Carman Fish

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MODEL PDC-30

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THE ACCIDENT BAROMETER

Prepared by the Statistical Division,
National Safety Council



The death total for September was approximately 7,500, a reduction of 10 per cent from September, 1953. Decreases occurred in deaths from motor-vehicle, public non-motor-vehicle and home accidents. Deaths from work accidents numbered about the same as in 1953.

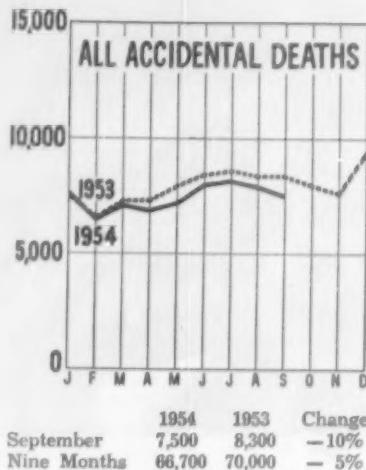
The nine-month death total was about 66,700, or 5 per cent less than the 1953 comparable figure of 70,000. Aside from no change in public non-motor vehicle fatalities, other classes showed reductions from 1953.

Motor-Vehicle Deaths

The motor-vehicle death total for September was 3,020, a decrease of 7 per cent from September, 1953. Compared to 1952, it was a reduction of 10 per cent.

Deaths for the nine months totaled approximately 25,770, a decrease of 6 per cent from 1953. The nine-month death rate per 100,000,000 vehicle miles was 6.2, a reduction of 9 per cent from the 1953 comparable rate of 6.8.

Of the 47 states reporting for nine months, 33 had fewer deaths than in 1953, 2 had the same number and 12 had more deaths. Reporting cities with populations of more than 10,000 had a decrease of 9 per cent for Septem-



ber and 10 per cent for the nine-month period.

Regional changes from 1953 in the nine-month death totals were:

North Atlantic	- 7%
South Atlantic	- 10%
North Central	- 6%
South Central	- 2%
Mountain	- 4%
Pacific	- 11%

Work Accidents

Deaths from work accidents numbered about the same as in September, 1953—1,400. The total for the nine months was 10,700, a reduction of 5 per cent from 11,300 in 1953.

The September frequency rate

per million man-hours for plants in community council contests was 6.91, a decrease of 3 per cent from 1953. The September rate for plants in 18 National Safety Council sectional contests was 5.69, a reduction of 6 per cent. The nine-month rate in community council contests was 6.65, a decrease of 10 per cent; in sectional contests, it was 5.65, also down 10 per cent.

Public Deaths

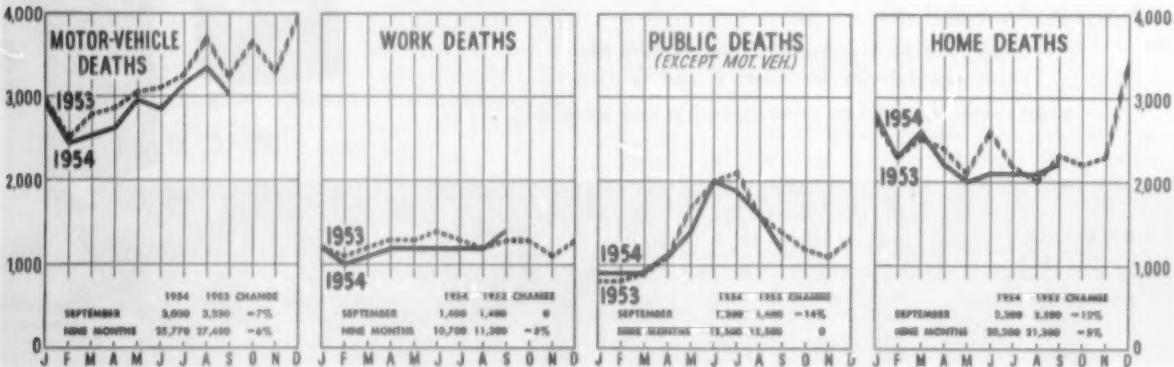
Deaths in September from public non-motor-vehicle accidents numbered approximately 1,200, or 200 fewer than in 1953.

The nine-month death total was 12,500, no change from 1953. Decreases in deaths from drownings, transportation and firearms accidents were offset by increases in fatalities from burns, falls and unclassified public accidents. There was a large increase in deaths of persons 65 years and over and no change for children under 15 years of age. Other age groups showed decreases with the largest change recorded for persons 15 to 24 years old.

Home Deaths

The total for home deaths in September was 2,200, or 300 fewer than occurred in 1953.

Deaths during the nine months numbered about 20,200, a reduction of 5 per cent from 1953. There were moderate decreases in falls and mechanical suffocation deaths; small decreases in fatal poisonings and firearms accidents; and no change in deaths resulting from burns. All age groups showed reductions from 1953.



PAYS OFF IN PRODUCTION

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One company, reviewing its safety records, found that 68% of its employees who were frequently injured had poor vision. On the other hand, the employees with good safety records had good sight.

A single large industrial company reports that—over a four-year period—156 men saved an eye because they were wearing safety glasses. And they were keeping them clean.



superior cabinet releases each sheet only 1-by-1, not in bunches, and greatly reduces waste.

The paper, not silicone-treated, is a superb, super-strong, wet-strength tissue. Naturally, no scratching on plastics, and no lint. Instead of a few sheets in little boxes, each Heavy-Duty carton contains 18 giant refills, and each refill has 760 jumbo-size interfolded sheets 8" x 4 3/4".

1 American industry's swing to MAGIC LENS TISSUE (Silicone treated) is one of the greatest success stories of the Safety field. Each sheet is over 50% larger than usual, and has twice the tearing strength. Yet MAGIC costs you less. \$8.40 per Carton (6 refills per carton). It polishes—and protects—as it cleans. The compact, self-mounting Dispenser is only \$2.50. No screws. Just stick it to the wall.

2 And here is the MAGIC HEAVY-DUTY Cleaning Station for heavy-grit areas or where ANTI-FOG protection is necessary. Perfect on plastic or any glass eyewear. Science's latest discovery, and finest combined cleaning and anti-fogging fluid. Pressure-packed. Just touch the top and—PRESTO—the pressure can does the rest. About 1400 applications per can. Each can contains twice as much as old-fashioned 6-oz. bottles, and pressure packing makes it go twice as far. So, 1 MAGIC CAN EQUALS 4 SUCH BOTTLES. That is the first saving. No pump. Nothing to refill. No attachments. Indestructible steel Dispenser locks can in place. No pilferage possible. This



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Wire from WASHINGTON

By HARRY N. ROSENFIELD

Washington Counsel, National Safety Council



Highways

The President's Advisory Committee on a National Highway Program announced that it planned to have its proposals in the President's hands in time for Congressional consideration early in the first session of the 84th Congress which convenes this January.

General Lucius D. Clay, Chairman of the Committee, gave some inkling of the Committee's plans, in an extemporaneous speech before the American Municipal Association. He indicated two substantial conclusions in connection with the President's original suggestions to the Conference of Governors in July 1954:

1. *Scope of program.* General Clay announced that although his committee still believes that the cost of the needs for highway construction, in addition to existing programs, is the 50 billion dollar figure stated by the President, the Advisory Committee believes that only some 24 billion of this should be met by the Federal Government, over a 10 year period. The remainder, therefore, will have to be made up by the states and local communities. The Committee envisages a program of building 40,000 miles of primary and secondary roads.

2. *Financing.* General Clay also announced a change from "a pay-as-you-go basis to a pay-as-you-use basis." This change was necessary, he said, because the "pay-as-you-go" basis was "desirable but not practical."

This relatively new approach to Federal highway financing, to be effectuated through the capitalization of a portion of specified Federal tax revenues, would be carried out by the establishment of a separate Commission to issue revenue bonds under its own name. These revenue bonds, which would mature over a 30

year period, at 3 per cent interest, would be secured by that portion of the revenues from the Federal taxes on gasoline and other petroleum products which was not granted to the States for highway construction.

Aviation

The Civil Aeronautics Board adopted a new regulation which provides that no matters dealing with limitations on or conditions relating to aircraft carrier liability for personal injury or death shall have any effect within the tariffs filed by the CAB.

The Civil Aeronautics Board also adopted changes in the terminology of its Air Traffic Rules affecting airspace restricted areas.

The President's Air Coordinating Committee, which is an inter-departmental body established by the President to examine aviation policies, launched a review of United States policies relating to

the use of navigable airspace by all civil and military users. This review will consider three main phases:

1. Survey of airspace problems and trends;
2. Development of a long-range policy;
3. Consideration of immediate steps that may appear warranted.

Interested aviation organizations will be invited to make recommendations to the Air Coordinating Committee during the conduct of the airspace policy review.

Explosives

The Department of Defense promulgated new regulations providing uniform requirements governing the shipment of ammunition and explosives by motor vehicles and the safety inspection of motor vehicles tendered or used for the transportation of such commodities.

Heads Committee On Dow Awards

WILLIAM B. BARTON, general counsel of the Chamber of Commerce of the United States, has been appointed chairman of the committee of judges for the 1954 Dow Award.

He is a member of the board of directors of the National Safety Council and has been a delegate to the President's Industrial Safety Conference.

The Marcus A. Dow Memorial Award is an annual award designed to recognize, reward and foster high standards of professional achievement in the field of motor transportation safety engineering. It was established in 1951 by the Greyhound Corp., through a grant to the National Safety Council.

Members of the award com-

mittee, in addition to Mr. Barton, are: L. D. Gale, president, Beloit Bus Co., Beloit, Wis., and general chairman of the Council's Transit Section; Frank J. Wirken, director of safety and personnel, Interstate Bakeries Corp., Kansas City, Mo., and general chairman of the Council's Commercial Vehicle Section; and E. G. Cox, chief of the section of safety, Bureau of Motor Carriers, Interstate Commerce Commission.

Nominations may be submitted by any individual, company or organization having direct knowledge of the nominee's achievements. Official nomination blanks and further details may be obtained by writing Paul H. Coburn, secretary, Marcus A. Dow Memorial Award Committee, National Safety Council, 425 N. Michigan Ave., Chicago 11.

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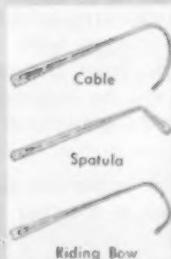
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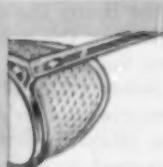
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CASES for COMMENT

Compiled by
ROBERT D. GIDEL
Senior Consulting Engineer
Industrial Department, NSC

IS THAT INJURY chargeable to your occupational injury record?

In some cases there is reasonable doubt as to whether the injury arises out of or in the course of employment. This can usually be decided by consulting ASA STANDARD CODE Z16.1-1945. If there is any doubt as to interpretation of the Code, the Committee of Judges of the American Standards Association's Sectional Committee is available to review the facts.

A few cases are discussed here. It is hoped they will aid readers not only in determining the chargeability of accidents but also in planning preventive measures.

Common Carriers

A common carrier operates trucks between cities. They use one operator on all runs which can be made from one terminal to another within ten hours. On longer runs they use two men and sleeper cab tractors, complying with interstate commerce regulations. Drivers on double operations, generally speaking, work together on the same tractor. The two men are paid on a mileage basis determined by the miles the equipment is operated, rather than on the basis of miles driven by each driver. Therefore, the driver who occupies the sleeper berth is paid the same rate per mile as the driver who is actually operating the vehicle.

Out of 10 disabling injuries to road drivers, 4 occurred to the driver who was in the sleeper berth at the time. Should the company include the hours during which the driver is in the sleeper berth, or should it count only the hours the driver is actually driving the vehicle in determining their record for the industrial safety contest? And, should the injuries occurring to the man in the sleeper berth be included as incurred in the course of employment as far as contest reports are concerned?

Decision. The present American Standard Code Z16.1-1945 does not clearly specify what should be done in this type of case. However, the committee suggested that for truck transportation over highways within this country, injuries to drivers while

occupying the sleeper berth should be counted. In connection with this, they also suggested that in the company man-hours of exposure should be included the man-hours of these truck drivers while occupying sleeper berths.

Comment. Paragraph 5.2.1 of the ASA Code borders on the point in question in this case, but reference in the code is to employees who live on company property, including shipboard. These do not constitute examples entirely comparable with this case.

Too frequently fleet operators give no more attention to hiring men who will operate expensive equipment and carry valuable cargos than they do to hiring unskilled labor. Once they are hired the employer has little if any control or follow up on their unsupervised conduct away from home base. In addition to employee safety there is public safety, public good will, customer good will and a host of other considerations. The employer can't expect to comply merely with the minimum requirements and expect to operate satisfactorily.

Self-reduced Hernia

An employee incurred an injury when his foot slipped while using it to push on a wrench. This occurred January 8. He did advise his supervisor of the pain he had felt but went back to work and finished the day. January 9 and 10 he did not work, these being his regular days off. He worked January 11 and part of

January 12 when he went to the doctor the first time for an examination. He was then off work from January 13 through 17, returning to work January 18.

Here are the statements taken from the doctor's report, which described it as a self-reduced hernia, covering three examinations:

January 12—Pain and swelling over right inguinal ring. Advised limited activity. To be examined in three days.

January 15—Rechecked. Reveals moderate tenderness over right inguinal ring. No protusion into the canal.

March 2—Re-exam satisfactory. No evidence of hernia or relaxation of ring.

Does this self-reduced hernia, being of only a short duration, justify a 50-day time charge instead of the actual calendar days lost? Paragraph 4.4.1 of Z16.1-1945 Code does not define a "repaired" hernia. Should the classification "repaired" be interpreted to mean a condition that repairs itself as well as a hernia repaired by the doctor?

Decision. This was a borderline case. The injury should be counted as a temporary total disability in accordance with the actual days lost from the case, and it should not be considered to come under the provisions for a hernia.

Comment. One important question in this case is whether this injury could technically be called a hernia of any type. Proper interpretation of Paragraph 4.4.1 of the Code would seem to indicate that first you must establish a hernia actually exists, and then the provisions of the Code would

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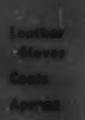
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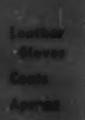
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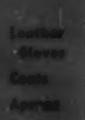
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Compiled by Ruth Parks, Librarian, NSC

BOOKS AND PAMPHLETS

Handbook of Standards

Handbook of Industrial Safety Standards, Revised Edition. 315 pages, illustrations, tables. Association of Casualty and Surety Companies, 60 John Street, New York 38. \$1.40. Also available from member companies.

A NINTH REVISION of this excellent publication, with four additional chapters and an additional appendix is now available.

While this publication does not pretend to cover the entire field of industrial safety it does, to a great extent, deal with all industrial safety topics and does cover extensively the more important items in the field.

Much of the text of this handbook is an amplification and extension of the various industrial codes on which it is based. Such subject matter covered includes boilers and unfired pressure vessels, machine guarding, illumination, electrical equipment, spray painting, tank operations, exhaust systems, building exits and prevention of "off-the-job" accidents.

New chapters added include coverage on Welding and Cutting, Storage and Handling of Flammable Liquids, Radiation Hazards and Disaster Control.

The appendices include an index to the American Safety Standards, a table of maximum allowable concentration of toxic gases and vapors, a classification of fire extinguishing appliances and information concerning the Accident Prevention Department and the Engineering and Research Division of the Association of Casualty and Surety Companies.

A. S. Kelly

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- Vol. II. Combustible Solids, Dust, Chemicals and Explosives
- Vol. III. Building Construction and Equipment
- Vol. IV. Extinguishing Equipment
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- Vol. VI. Transportation

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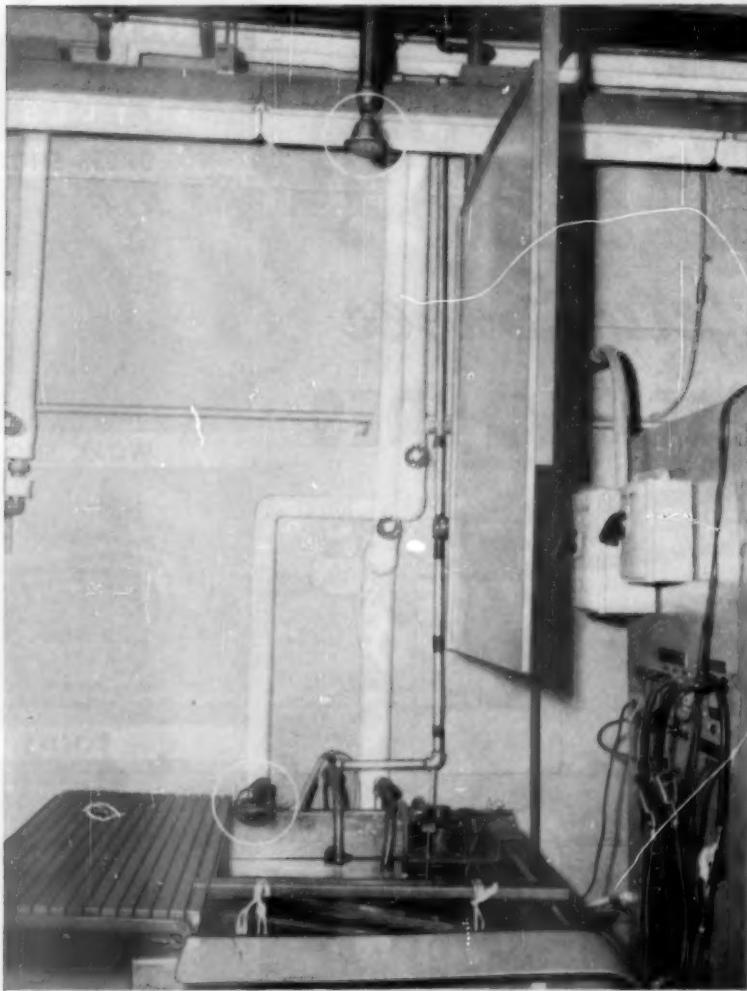
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People Are Here To Stay

ALL the current talk about automation has stirred up some fanciful notions of push-button factories run by electronic brains.

No doubt the factory of 2000 A. D.—or even 1975—would make us gasp, if we could get a preview. But we can be sure of one thing: there will still be people around to do the thinking for the machines and to take care of them when something goes wrong with their complicated innards. Man will still be boss of the machines.

Satisfactory operation, the industrial prophets remind us, will require people to review and analyze the jobs for the machine, tell the machine what to do, and to operate it. The number of repetitive jobs will be reduced and the new jobs will call for creative thinking, initiative and responsibility.

The factory job of the future will undoubtedly require less physical exertion but the general pace of working and living will be stepped up. The modern industrial worker's fatigue is far more complex than physical weariness. It may involve psycho-physiological factors, indirect and often unrecognized.

So, whatever the future may bring in the way of scientific developments, the individual and his problems will still be with us. There are signs that management is beginning to realize it.

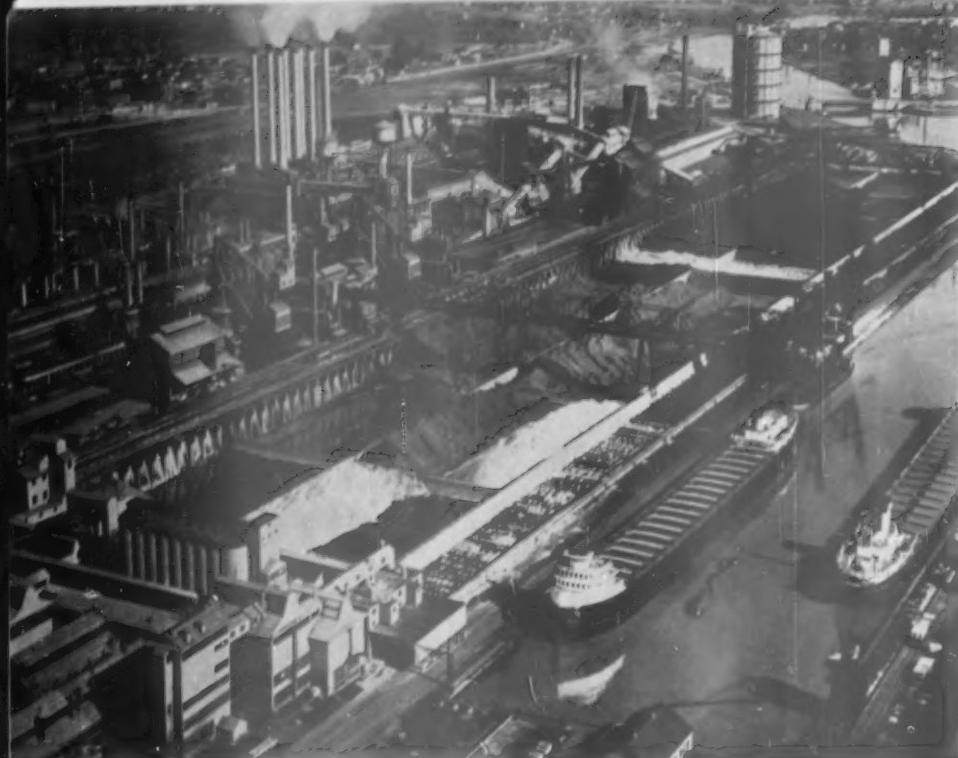
Along with automation, a new word has crept into the industrial vocabulary—*ergonomics*. Briefly, it means "the study of men at work." In the past, it has sometimes been called "human engineering," a term which had little respect among engineers because too often it consisted largely of freshman psychology with little real engineering.

Now, efforts are under way to develop human engineering into a real science. At the recent annual meeting of the American Society of Mechanical Engineers, Professor Theodore F. Hatch, of the University of Pittsburgh, presented a proposed program of ergonomics for the ASME. Purpose of the program would be to study man's reaction to stresses at work and determine how he can cope with these stresses. Mr. Hatch's paper, published in this issue, is commended to thoughtful readers.

So far, Mr. Hatch points out, contributions to the science of ergonomics have come mainly from specialists in anatomy, anthropology, physiology and psychology. Engineers—especially designing engineers—should participate to a greater extent in research studies and their practical application.

The engineers must be able to work directly with these other specialists, to insure an understanding and wide acceptance of human engineering problems, Mr. Hatch says. It is important that these principles receive primary consideration in design. Past and current practice has been to consider the human element in the working environment and the work facilities only after physical and functional requirements have been met.

Working more or less independently, these various elements have made important contributions to safety. Their partnership offers immense possibilities in helping man to maintain safety, health and happiness in a world that is getting increasingly complex.



Ford's River Rouge plant where some 60,000 persons are employed. Without an effective accident prevention program, orderly, efficient production would be seriously hampered.

Safety's 14 Points

Throughout industry they've brought dramatic results.

Outside the plant gates is another vast field of accident prevention where their application is urgently needed.

By JOHN S. BUGAS

FORD'S 14-POINT PROGRAM

1. Get management at all levels behind the safety effort
2. Active participation of supervisors
3. Have at least one full-time safety engineer for each manufacturing and assembly plant
4. Sell safety to new employees
5. Re-sell safety repeatedly
6. Maintain firm plant discipline
7. Build safety into the job
8. Get the safety engineer's approval on new equipment and plant layout and design
9. Insist on eye protection for all employees and visitors
10. Require permits for all employees in jobs that might endanger others
11. Re-examine permit holders regularly
12. Maintain good plant housekeeping
13. Report all accidents promptly
14. Use all available media for safety publicity

IT IS ALWAYS a great temptation to approach the problem of industrial safety from an economic angle. Competition means cost-consciousness. In a buyer's market, the business enterprise must operate at razor-sharp efficiency. Disabling injuries can weaken its competitive position just as drastically as slipshod management or an inferior product.

But I would like to suggest that *humanitarian* considerations must always override the economic aspects of industrial safety. As Benson Ford pointed out in a recent speech in Chicago, "People are America's most precious resource." All of us at Ford Motor

Company subscribe to that statement 100 per cent.

The Ford safety program is cost-minded in that it seeks the most in accident prevention for each dollar spent, but it does not—and never will—attempt to put a price tag on the life or well-being of a Ford employee. Our safety program is production-minded and recognizes that only high productivity and volume sales can keep the company healthy and prosperous. But safety is not subordinate to production; it is an integral part of the productive process. We insist on production *with* safety, not at safety's expense.

Within this broad framework of social responsibility, the American businessman appears to have made a good deal more progress in the field of industrial safety than has been made in other areas of safety. One good reason for this progress is that in the plant we can exercise a reasonable degree of control over the working environment. Accidents on the farm, in the home and on the road occur under relatively

uncontrolled circumstances. In some cases—week-end traffic, for example—conditions may approach anarchy.

Nevertheless, it seems to me that many of the lessons we have learned in industrial safety can profitably be applied in other areas. The same weapons and techniques which have cut plant accidents so dramatically in the past twenty years might well be used against accidents in general.

With that in mind, I'd like to describe briefly the overall safety program at Ford. We don't claim any great originality for it. As a matter of fact, about all we've done is to "codify" and lay down as "law" a number of practices—some new, some of long-standing—in the company. Probably many other business firms have similar programs. But in laying out the Ford program, I can perhaps provide benchmarks against which to measure the performance and prospects of other safety programs, such as traffic safety.

Our safety program has 14 points. Some explain themselves, and some require a little explanation.

The automotive industry has a very practical interest in highway safety. These cars from the assembly line will soon be part of the nation's traffic.



JOHN S. BUGAS is Vice-President—Industrial Relations, Ford Motor Company, Dearborn, Mich. This article has been condensed slightly from an address at the 28th Annual Meeting, Detroit Industrial Safety Council.

Point 1 is to get management at all levels behind the safety effort. If the boss is for it, the men all down the line will soon get the idea. At our Buffalo Stamping Plant, for example, the plant manager himself is the company's most ardent safety spokesman. When he has something to say, he not only addresses the day shift; he comes back to give the same safety message to the other two shifts. Our plant managers are required to keep in close touch with and give full support to the safety program.

Point 2 calls for the active participation of supervisors. Part of each weekly management session in our plants must be devoted to safety, and supervisory safety committees are required to hold monthly meetings.

Point 3 needs no comment: each manufacturing and assembly plant must have at least one full-time safety engineer.

Point 4 is: Sell safety to new employees. Every new employee hears a talk on safety problems

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Opportunities in Ergonomics

By THEODORE F. HATCH

To maintain technological progress while controlling physical and mental stresses on the worker is the goal
of human engineering in its newer and more specific meaning

TO PROVIDE for the most efficient and beneficial use of human capacities and skills in the conduct of work to yield maximum productivity without imposing undue stress upon the worker is a principal objective in industrial engineering practice. This is accomplished through:

1. Selection and design of efficient process equipment, machines and tools.
2. Proper layout of work place and selection of work methods.
3. Substitution of mechanical for human power, as in lifting and transporting materials.
4. Use of power-driven tools and automatic machines to replace hand work.

Attention is given to the working environment as well as to work facilities; to plant layout, lighting, heating and ventilation, removal of dusts and fumes, and, most recently, to noise control. Even the colors in the working environment are selected to give pleasing effects.

On the human side, highly developed procedures are employed

THEODORE F. HATCH is Professor of Industrial Health Engineering, Graduate School of Public Health, University of Pittsburgh, and Research Advisor, Industrial Hygiene Foundation, Mellon Institute, Pittsburgh, Pa. This article has been adapted from a paper presented at the Annual Meeting of the American Society of Mechanical Engineers, New York, November 28-December 3, 1954.

in the selection, placement, training and supervision of workers to insure the best use of their capabilities and skills, with optimum adjustment between the man and his job.

To industry and workers alike, the benefits of these measures have been great. In consequence, such systematic consideration of human requirements in the arrangement of work facilities and in the organization and operation of industry is now accepted as an essential part of management responsibility and of industrial engineering practice.

Consider the Man

The need to consider human factors in machine and job design has increased in proportion to advances in the mechanization of industry. This is the direct consequence of technological improvements in the man-job relationship. Thus, while elimination of elementary manual labor through mechanization and assembly line operation has lessened physical stress, it has created new work situations involving physiological and psychological stresses of higher order.

In contrast to the hand craftsman who set his own work pace, the functions of the machine operator and assembly line worker are more highly organized, impersonal and repetitive. The individual is involved with only a

small part of the finished product, and among other consequences he has lost the hand craftsman's feeling of accomplishment.

The modern industrial worker may not develop the simple physical fatigue of an earlier day but he often experiences more complex psycho-physiological fatigue of an indirect and unrecognized form.

There is growing realization in industry of the harmful effects as well as the benefits of mechanization, as evidenced by the current interest in job integration rather than job simplifications. To develop a greater feeling of accomplishment, and to avoid monotony and repetitive work, individual operators have to perform more complex functions involving simultaneous operations for the production of a complete object or equivalent finished task.

Engineers may take credit for their contribution to the beneficial advances in the use of human capacities in modern industry. These accomplishments have come about through the application of a common sense approach to the determination of human requirements and the utilization of the same systematic and quantitative procedures of engineering to provide for the human requirements as are employed to meet the physical and functional demands in machine design.

In this work, engineers have

pioneered in areas of physiology and psychology ahead of specialists in those fields. Notable examples are in the formulation of the principles of time and motion economy and the more recent developments in methods engineering as well as in the design of ingenious machines to replace human work, even including "mental" functions.

It must be recognized, however, that the engineer has accomplished these advances despite his general lack of training in the biological sciences or other areas of study of man. Of necessity, therefore, he has had to limit his considerations to the more elementary aspects of human behavior in response to stress. In this he has accomplished much, but, ironically, out of the very success of such efforts have come new and more refined human problems which cannot be dealt with in an elementary manner.

A Wartime Example

To solve these problems, the engineer must acquire a deeper understanding of man and incorporate this understanding into his regular thinking and practice. In other words, by his pioneering but necessarily limited success in dealing with the human factor in job design, the engineer has created a demand for a new kind of engineering specialization which, in application, will give full consideration to human requirements on a par with physical and functional requirements.

The need for this new branch of engineering was repeatedly demonstrated during the recent war and its present recognition comes largely from that experience. Weapons were developed with potential functional capacities which could not be realized in practice simply because they imposed demands on the operator which were beyond his capabilities.

The breakdown in some cases was at a high psychological level, but in others quite elementary factors, such as space requirements or a sufficient water sup-

ply, were involved. Designing engineers were forced to recognize that human requirements took precedence over functional and only with changes in design in accordance with these, was it possible to obtain fully effective weapons.

Human Engineering Defined

Originally, human engineering had to do with the management of people, with no reference to the physical aspects of engineering. In its popular use, the term lost standing among engineers. It is given a new and specific physical meaning here, however, which should be entirely acceptable.

Human engineering is defined as: *application of the principles, laws and quantitative relationships which govern man's response to external stress to the analysis and design of machines and other engineering structures, so that the operator of such equipment will not be stressed beyond his proper limit or the machine forced to operate at less than its full capacity in order for the operator*



ERGONOMICS, the study of men at work, is a field of applied science concerned with human behavior in response to external stress, particularly the stress-strain problems of industrial employment.

In recognition of the need to satisfy human as well as physical and functional requirements in the design of machine tools and other work facilities, it is proposed in this article that the American Society of Mechanical Engineers set up a program for the development of a branch of engineering, called human engineering, which deals primarily with the human factor in engineering design. First step in this development involves the co-operation of specialists from the biological and social sciences to expand the parent field of ergonomics.

to stay within acceptable limits of human capabilities.

This definition implies that to a useful degree, man's anatomical, physiological and psychological capabilities and limitations can be expressed in the systematic terms of engineering and that the nature, source and magnitude of stresses set up by the machine can be identified and measured and even anticipated in the course of design of a new machine so that the operator will not be subjected to too much stress. Thus, in their fullest development, the laws which govern man's working capacities will be applied by engineers on a par with physical laws in engineering practice.

Help from Other Fields

Human engineering rests upon a field of applied science which has been given the name Ergonomics, and is defined as "the study of man at work." It draws upon a variety of basic biological and bio-physical sciences to define the pattern of human behavior in response to stress and for determining man's capabilities and limitations in dealing with such stress. Contributions have come principally from anatomy, anthropology, physiology and psychology. Specialists in these areas have taken leading parts in the applications of knowledge from their respective fields to the development of human engineering.

Engineers have not had an equal part in this development, nor are they using these new principles of human engineering extensively in design.

Possible reasons are clear. Much of the information has been prepared and presented within professions essentially foreign to engineers and without the problem of practical application in mind. It is not enough for specialists in other fields, such as physiology and psychology, to prepare statements of capabilities and limitations of man and simply to write specifications for de-

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Safety Through Standards

By HENRY B. DUFFUS

Through the American Standards Association many professional groups have contributed to progress and safety. Prominent among these is the ASSE

ALTHOUGH the safeguarding of life, health, and property is recognized as the responsibility of every professional engineer, the term *safeguarding* is particularly descriptive of the duties and responsibilities of those associated with safety engineering.

Thus the objectives of the American Society of Safety Engineers are: (1) to promote the arts and the sciences of engineering as they relate to accident prevention and to the conservation of life and property; (2) to attain high standards of safety engineering; and, (3) to encourage the development of safety engineering as a profession.

In the furtherance of these objectives, the Society cooperates with the National Safety Council, other engineering societies, federal, state, and municipal officials, insurance companies, and other organizations concerned with accident prevention. It encourages and conducts research pertaining to accidents and accident hazards, formulates safety codes and standards for accident prevention, and considers problems arising out of the application of these codes and standards.

The ASSE's Background

The professional organization of which ASSE is the descendant, The United Association of Casualty and Liability Insurance Inspectors, was founded in 1909, at about the time that the enactment of workmen's compensation laws was becoming a matter of great concern to legislative bodies as a result of the public's demand for action to control the needless

waste caused by industrial accidents. The objectives of this parent organization were very simple: "To promote the social and educational advancement of its members in the prevention of industrial accidents."

Three years later it was decided to enlarge the scope of the organization and to accept members from fields other than insurance. It was also decided to adopt a name more descriptive of the broader objectives of the Associa-

tion and the name American Society of Safety Engineers was selected.

The first meeting of the Society under this new identity was held in New York in December, 1914. Application was made for incorporation under the laws of the State of New York, and in March, 1915, the Society was granted a charter as a nonprofit association. Membership increased, and the Society's influence in the field of safety broadened until in the early twenties it paralleled much of the industrial work of a division of the National Safety Council.

In 1924, to avoid duplication of effort, the Society, while retaining its identity as The American Society of Safety Engineers, became an organic part of the National Safety Council and was recognized as the engineering section of the Council. This relationship with the National Safety Council was maintained for 23 years, until October 7, 1947, when the membership of the Society voted to reestablish it as an independent organization which would maintain affiliation with the National Safety Council. Present membership exceeds 6300 distributed among 58 chapters, including Canada and Hawaii.

Many Participate

If I have given the impression that the ASSE alone has pioneered in the development of safety standards, I should like to correct that impression. A review of approximately 125 safety standards which were developed under the supervision of the Safety



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Standards Board will show the great influence of the National Safety Council, many of the engineering societies, trade associations, government bodies, and insurance interests.

How extensively the influence of ASSE will be felt in the future development of American Safety Standards was best expressed in the form of a challenge by our Mr. Arthur Johnson, the new Chairman of the Standards Council at an Annual Meeting of ASSE. He said:

1. Let the American Society of Safety Engineers develop its own leadership, for the discovery and drafting of standards in the safety field, under American Standards Association procedure.

2. Let there be more representation by, and in the name of ASSE, on American Standards Association sectional committees.

3. Get the chapters actively interested in promoting the use of safety standards.

A thousand copies of this challenge, an accompanying analysis of all safety standards and a suggested list of new standard projects were distributed to the executive committees of all 58 ASSE chapters. I can assure you that in the future we shall find the name ASSE synonymous with safety standardization.

At present the Society is represented in more than 40 Safety Standard Projects and is co-sponsor of four standards. In addition, ASSE members are assisting on practically all of ASA's 155 safety standards committees. These projects are in many different industrial areas: logging and sawmill safety, window cleaning, mechanical refrigeration, printing, textile, steel, paper and pulp are but a few.

Then, too, the projects are concerned with particular hazards of industry: toxic dusts and gases, industrial use of x-ray, exhaust systems, industrial lighting, storage and handling of anhydrous ammonia, exposures to alpha, beta and gamma rays, etc.

Although the scope of safety standardization in which we participate is impressive, we find

It Paid to Know the Rules



A SAFETY CONTEST by telephone—the Family Safety Rule Quiz—was inaugurated at International Harvester's Chicago Tractor Works early this year. This contest brings safety into the homes of IH employees. If the member of the family contacted can come up with the right answer to "What is the safety rule at Tractor Works this week?" he or she is eligible for minor prizes, awarded every two weeks. Every six months those who have won minor prizes become eligible for one of three jackpot prizes—a freezer, refrigerator, or room air conditioner (IH products).

Standing in front of their respective prizes are the three jackpot prize winners and their employee-husbands. Prizes have been presented by H. F. Griffith, assistant works manager (sixth from left).

that we have but scratched the surface of this ever-broadening field. For example, industrial research and development laboratories are now turning out products that involve processing operations with exposures that are beyond the control of the five senses. We can be physically damaged without any sense of the damage being done. This throws a heavy burden on those responsible for the development of standards for the health and safety of the worker. And it points up an urgent need for new standards indicating safe tolerances.

Likewise, we have but scratched the surface where standards for present industrial exposures are concerned. Take explosion hazards for example.

There is zirconium. We can machine it, shear it, and form it with relative safety, but, in a powdered dry form it will ignite spontaneously and with explosive effect. In one case a workman, for some unexplained reason, carried a small can of powdered zirconium out to a burning area and tossed the can into the incinerator. An explosion sent large pieces of the incinerator flying over the top of the building and resulted in permanent disabilities to the worker.

Titanium, barium, chlorates, and perchlorates are but a few of the materials and products which industry uses without adequate safety standards.

In the field of machine tool equipment we are similarly weak.

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Get Everybody Into the Act!

By JEAN WADE RINDLAUB

The best ads grow when client and agency both have a finger in the pie . . . And many of the appeals and techniques of advertising can give power to a safety campaign

MY JOB is writing advertising. And I learned long ago that advertising—like safety—is everybody's business. I have never met a client who didn't know—or at least didn't have a vigorous opinion—about how loud the music and how low the neckline should be on his show, how bright the pictures should be in his ads, and, most definitely, what the words should be.

Words, unfortunately, are everybody's business. I have wished sometimes that advertising could be written in scientific formula so it would be harder to change. There must be days when safety people feel that way about

their jobs, too. But in the end, we usually come to realize that the best ads grow when client and agency both have a finger in the pie. And I'm sure you have learned that a safety program is effective only when you get everybody into the act.

At BBDO we have an operation designed to do just that. We call it brainstorming. A group of people from varied jobs and varied levels of age and importance come together to brainstorm a problem—think up new ways to solve it. There are definite rules for brainstorming—rules we have come to have a lot of faith in.

The main rule is "Anything goes. No criticism." Nobody says "But that wouldn't work." Nobody says "We tried that last year and it was no good." Nobody says "I don't think much of that idea." You'd be surprised how ideas bloom and blossom in the absence of criticism. And some of the ideas grow into worth-while projects.

If you haven't tried brainstorm-

ing, if you haven't invited other people in your shop and office to sit down together in your office or your house and put their minds to work on the problems of safety, I hope you will.

I'd like to see it tried in a community; I'd like to see everybody get into the act. For safety training, like many other good things, should start at home. As a mother, as a father, have you tried being a home safety engineer? Have you organized a safety tour through the house with each member of the family contributing ideas that would make each room a safer room to live in—bigger ash trays, less trash, non-skid rugs, caution signals on swinging doors, tested railings, make your own list. A safety tour of the back yard and the front yard and the cellar and the attic, with everybody's mind concentrating on what he could contribute to make his own little world more safe.

You could follow it out to the community. Stage a safety ses-

MRS. RINDLAUB is Vice-President of Batten, Barton, Durstine and Osborn, New York. In 1951 she was named "Advertising Woman of the Year" by the Advertising Federation of America. This article has been condensed from an address before the Annual Meeting, 42nd National Safety Congress.

sion of the PTA with fathers and mothers volunteering ideas on how to keep our children safe. Safety club programs in the schools and high schools with awards for the best accident prevention ideas. Community safety sessions with police and firemen and other authorities brainstorming ways to better the town's safety record. *One man, one woman* could start this program—and the whole town would benefit.

Of course you'd take it into your plants. You wouldn't stop with the safety engineers—*safety is everybody's business*. You'd gather the bright young people in your advertising department and your wide awake designers and plant foremen and a couple of shipping boys on the way up—and you'd get them excited about safety, let them contribute their own notions of things that could be done to improve your plant's safety record. I suspect that some of today's exciting projects in painting machinery according to a safety code and such things as coffee breaks before the workers get too tired and safety contests and many more of your more successful projects have sprung from sessions just like that. Chances are you've been getting everybody into the act since the day the cause of safety became yours.

And I suspect you've learned long since, too, that there's a great deal of satisfaction in *ideating* your own problems. When you sit down with a pad of paper and look your problem squarely in the face and then put down one solution after another until you've piled up a great many alternatives and then pick one or two that look the most promising—that's a well spent day or night, and fun, too.

It's a Changing World

It's a changing world—yesterday's solution may not be the answer to today's needs. You're talking to different people who live vastly different lives—to *younger* mothers (three out of five of today's 16 to 19 year olds are married), to bigger families,

Good Intentions?

WHY DOES SOMEBODY always have to be riding a guy about safety? You'd think we weren't interested in our own well-being. Always got the needle in—the blunt end, yet!

So, it's true, Fenwick got his thumb chopped off in the punch press. He intended to readjust the cable on the pull-away guard the very next run.

So, Aaron got a steel sliver in his eyeball. He intended to get his goggles off the bench and wear them while he chipped the next casting.

So, Jeff got his big toe crushed by a falling box. He intended to buy a pair of safety shoes the next payday.

So, Sam clobbered the rear end of a noodle truck the other day. He intended to get his brakes fixed next week end.

Seems to me they were just the victims of fate or circumstances—or something.

Even the wife keeps the old probe working.

I know I shouldn't eat so much—and I should get to bed earlier—and I should play with the kids more—and I shouldn't drive so fast—and I should get a new ladder—and I should fix the front steps—and I should fix the electric extension cords—and so forth and so on. But, she knows I intend to do all these things as I get around to them. Why get so frantic about them, already?

It cuts me deeply to think that people have no more confidence in Fenwick, or Aaron, or Jeff, or Sam or me, than they do.

Oops! . . . See, here's an example of exactly what I've been talking about. I just got a splinter in my hand off that packing case.

The Boss'll think I'm not interested in safety. But, I've got my leather gloves right here in my pocket and I intended to put them on all the time.

ROBERT D. GIDEL,

*Senior Consulting Engineer,
Industrial Department,
National Safety Council*

to people who don't stay put (there've been five moves to a family in the last ten years—one in three families in America changed homes last year).

You're talking to people with more education—our children are staying in school longer. Talking to people who have traveled more, heard more music, read more books and magazines, seen more TV.

You're talking to a changing world—and if you're talking with yesterday's words and pictures it might be a fine thing to look for new ones. I like to remember the advice that Alexander Graham Bell gave to his children:

Don't keep forever in the public road, going only where others

have gone. Leave the beaten track occasionally and drive into the woods. You will be certain to find something you have never seen before. Of course it will be a little thing, but do not ignore it. Follow it up, explore all around it. One discovery will lead to another. And before you know it you will have something worth thinking about to occupy your mind. All really big discoveries are the result of thought.

Have a Basic Theme

Another thing we find in our business that works very well is to have a basic theme. Some of the greatest basic themes in use today are in safety promotion—

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(Fiction)

*Perhaps you've indulged
in thoughts like these
when starting on the
new year's work . . .*

Monday Morning

By BILL ANDREWS

Jan. 3, 1955

We made it!

December was accident-free at the Jackson-Barnes plant, and we have seen a 12-month period go by with a frequency rate 24 per cent lower than any previous year's. Unless something very strange has happened in our competitors' plants, we should have the sectional safety contest wrapped up tight.

Last Friday, after the plant closed, Harry and I sat around the office together for an hour, unwilling to leave. There was a rush job loading at the dock, a small maintenance crew working in the boiler room on a repair job, the janitors and sweepers were still scattered about the plant, and I think both Harry and I were holding our breath.

Then both our wives called within a few minutes of each other, reminding us of the hour and the need for preparing for festivities. I told Harry to run along, and I took one last walk through the plant, looking for something or anything to do or say. I didn't find it, and I realized that I was being pretty foolish. So I went home.

When the band struck up "Auld Lang Syne" at the Country Club dance, I did remember to

kiss my wife, but my mind was still downtown by the tracks. I was almost ready to excuse myself and go make a phone call when I saw Harry coming back into the ballroom. He said something to his wife as he passed her, and he came over to me.

"I just called the watchman. Nothing has happened," he said.

I nodded, and as I turned, I saw Sue smiling at me. "Now, my dear," she said, "maybe you'll pay some attention to me for the rest of the evening."

I did.

* * *

Now it's 10:15 Monday morning. My secretary is typing up a memo giving the basic facts of our 1954 achievement. It will be on Larson's desk in half an hour, and, if he acts on my suggestion, he will be on the public address system this afternoon congratulating the employees on their record of safety.

In a week the final report will go to the National Safety Council, and I wish I could be there to see Mark's reaction.

Later in the year, there'll be a splash in the safety and trade magazines in which our record will be listed along with a lot of other fine ones. And, with luck,

we should have a handsome plaque on the safety department wall.

But now it's 10:16 of a Monday morning, and the first Monday of a new month and a new year.

Suddenly, from having a fine record to protect, we move across the calendar and find that we have no record except the one we write from here on out.

Harry is plodding through accumulated and neglected memos and reports, the paper routine we both hate. I need to brush up some notes for a class section on infections in a safety training course for foremen. The plant is noisy all around us—the heavy noise of a big plant working full blast. There are metal parts moving fast, and heavy weights being lifted, and sharp tools cutting. There are foremen on the floor breaking in new hands and bawling out old hands.

And, next door to my office, a nurse in starched white waits in the first aid room to receive the safety department's failures.

I knew what to do for a month of hard pushing to protect a record. But on the first day of the work year there are no such pat and simple decisions to make.

We come back from looking at the calendar and the clock to

looking at the whole program, today, tomorrow and ten years ahead.

By 10:21 I've had all the time to savor the taste of success that I can afford. From here on it's work.

Immediately, it's paper work, worse luck. Those class notes, battered from frequent use in half a dozen years, yet needing, as they do at the beginning of each new class, some revision, some additions based on last week's experience or the technical article read yesterday.

Beyond that, there are some letters—not many, but some. And tomorrow Max will be in to sell me safety equipment, and the day after a couple of his competitors—I told the peddlers to leave me alone in December, and now it is time to face the fact that I need some of the things they sell.

For spare time, by tomorrow Harry will be feeding me the data of the detailed reports—first aid, housekeeping, out-of-town operations, training courses, and so on. Then we'll work up the NSC summary, and go on to do the annual report—finishing, I hope, before the end of the month.

Meantime, the main rhythm of the job itself will be felt—the inspection rounds, committee meetings, classes, confabs and requisitions. And there will be the run of emergencies, perhaps minor, perhaps major.

The phone will ring tyrannically, and I will, without thinking, pause as I hear steps enter the first aid room, pause to wonder if this is bad.

It is 10:29, and I hear, dimly, the phone ring in the first aid room, hear sound but not the words of talk, hear starched skirts rustle in quick movement, hear a cabinet open and close, and a woman's quick steps out the door and away.

I look at Harry and say, "Better see what's up."

He goes, pulling goggles out of his pocket as he does so, and I sit quietly listening to the peck of my secretary's typewriter as she pounds out the words of last year's brag. It is 10:31—and I go

Big Enough for a Town



New sewage disposal plant of Autocar Division, White Motor Co., Exton, Pa.

A NEW \$75,000 sanitary sewage treatment disposal plant that compares favorably with many small municipalities is one of many features of the new plant of the Autocar Division of The White Motor Company at Exton, Pa.

In drawing up plans for the new truck manufacturing plant, the company used the consultation services of Edwin B. Wagner of nearby Downingtown, sanitary engineering specialist.

Designed with a margin of safety over state requirements, the plant capacity was based on a figure of 750 persons in the plant using 40 gallons of water per day per person. Only clean water free from contaminants will be emptied into the stream—a small creek that eventually empties into the Brandywine.

This private treatment and disposal plant has reinforced concrete tanks and chambers, brick control house and concrete-tile trickling filters. It is situated about 600 feet away from the main assembly plant.

back to my class notes on infections and wait for Harry to come back and tell me whether or not we still have a safety record to be proud of.

The primary settling tank is 35 feet long, 8 feet wide and an average depth of 5 feet with a single hopper 13 feet deep; the secondary tank is the same size. The big circular trickling filter bed is 50 feet in diameter and 6 feet deep. A rotating distributor arm takes the liquid pumped from the primary tank sump and sprays it out over the 600 tons of 1½- to 3-inches crushed filter stone which aerates and purifies the liquid as it settles.

A special tile sluice channel at the bottom of the filter tank carries the effluent to the secondary settling tank, solids from the settling process are pumped to a digesting basin.

Digested solids are pumped from the digestor to a series of sludge beds 48 feet long, overall, 16 feet wide and six feet deep which filter out the remaining liquids, which are returned to the system, and dry the sludge for removal. All water is chlorinated before being emptied into the stream.

Daily tests are made of the water going into the stream for residual chlorine content, for oxygen demand and the amount of settleable solids, thus assuring clean effluent to the stream.



Basic Requirements For First Aid

By W. E. POWELL

If you have a well-equipped hospital with medical and nursing staff, this article is not for you . . . It's for the company that can afford only the bare essentials

FIRST AID is defined as the immediate, necessary, temporary care given in cases of injury or sudden illness. In many cases, first aid may be all that is needed. In other instances, prompt treatment by a physician will be indicated.

In serious accidents, when the injured person is unconscious, is bleeding severely, or has broken

bones, skilled first aid may avoid complications resulting from loss of blood, shock, or aggravation of the injury. It may even save a life.

First-aid requirements vary according to local conditions. These include: Number of employees, type of operations, nature of injuries most likely to occur, and state and local regulations. Basic needs, however, remain the same.

In every industrial plant there should be:

1. One or more qualified first aiders.
2. Adequate equipment and supplies.
3. Suitable case-handling procedures.

W. E. POWELL is Division Manager, Loss Prevention Department, Liberty Mutual Insurance Company, Chicago. This article was presented at the Fertilizer Section, 42nd National Safety Congress.

The Staff

The first-aider is expected to do for a person what he is unable to do, or might wrongly do, for himself. He must know what constitutes good first-aid treatment, be able to recognize cases that need medical care, and attempt no treatment beyond emergency measures, unless authorized by a physician.

The employee selected to serve as a first aider should have such personal characteristics as tact, sympathy, judgment, dependability and resourcefulness. He should become technically qualified through training in a stand-

ard first-aid course given by an accredited agency, such as the American Red Cross or the U. S. Bureau of Mines.

A refresher course every three years is advisable to keep first-aid information fresh in the first aider's mind and to bring him up to date on advances in techniques.

Equipment and Supplies

Suitable space for administering first-aid treatment should be set aside in a location having good light, ventilation, and proximity to toilet and washing facilities. Warm, running water, liquid or granular soap, and paper towels should be readily available.

The following equipment is recommended:

1. A chair for use by the injured person.
2. Small desk or table where records may be kept. It may also hold first-aid supplies.
3. Covered receptacle for disposal of waste.
4. First-aid cabinet or kit.

The first-aid kit should be a dustproof metal container, stocked in compliance with state regulations and the recommendations of the physician to whom the majority of cases are referred. This kit should be kept clean and ade-

quately stocked at all times. It should be inspected regularly for contents and condition. All items should be clearly labeled so that nothing will be taken from an unmarked container or one from one whose contents are not plainly designated. Supplies without legible labels should be destroyed.

Table I contains a list of supplies which will serve as a guide.

Case Handling

Establishment of fixed procedures for handling injury cases tends to reduce the general confusion which often results when a serious accident occurs. This delays treatment and reduces its effectiveness. The following regulations are directed toward efficient case handling:

1. Inform all employees of the type of care provided, name of first aider, and importance of reporting promptly for treatment of every injury to prevent aggravation or infection.

2. Supervise the first-aid kit closely but keep it unlocked at all times to avoid delay in case of emergency.

TABLE I—SUGGESTED LIST OF SUPPLIES

ITEM	No. of Employees		
	Under 50	50-100	100-200
	Quantities		
1" roller gauze bandage	3	6	8
2" roller gauze bandage	3	6	8
1" adhesive bandages	50	50	100
2" elastic bandage	1	1	2
Triangular bandage	1	1	2
1" x 5 yd. roll of adhesive	1	1	1
2" x 5 yd. roll of adhesive	1	1	1
2" x 2" sterile gauze compresses	12	12	18
3" x 3" sterile gauze compresses	12	12	18
Cotton-tipped applicators	50	50	100
2 oz. package sterile cotton	1	1	1
Box of 12 ammonia ampules	1	1	1
2 oz. tube white petrolatum jelly	1	1	1
2 oz. bottle first aid antiseptic (to be selected by the doctor)	1	1	1
Bottle of 100 5 gr. aspirin	1	1	1
Bottle of 100 soda mint tablets	1	1	1
Package safety pins	1	1	1
Packaging cleansing tissues			
Packaging paper cups			
Scissors			
Tweezers			
Arm and leg splints			
Standard First-Aid manual			
Small notebook and pencil for recording cases			

3. Permit only authorized first aiders to use the kit and administer treatment—unless the situation is very unusual.

4. Record each treatment when given. A complete concise record of treatment is essential for proper case handling. A notebook may be kept for such items as:

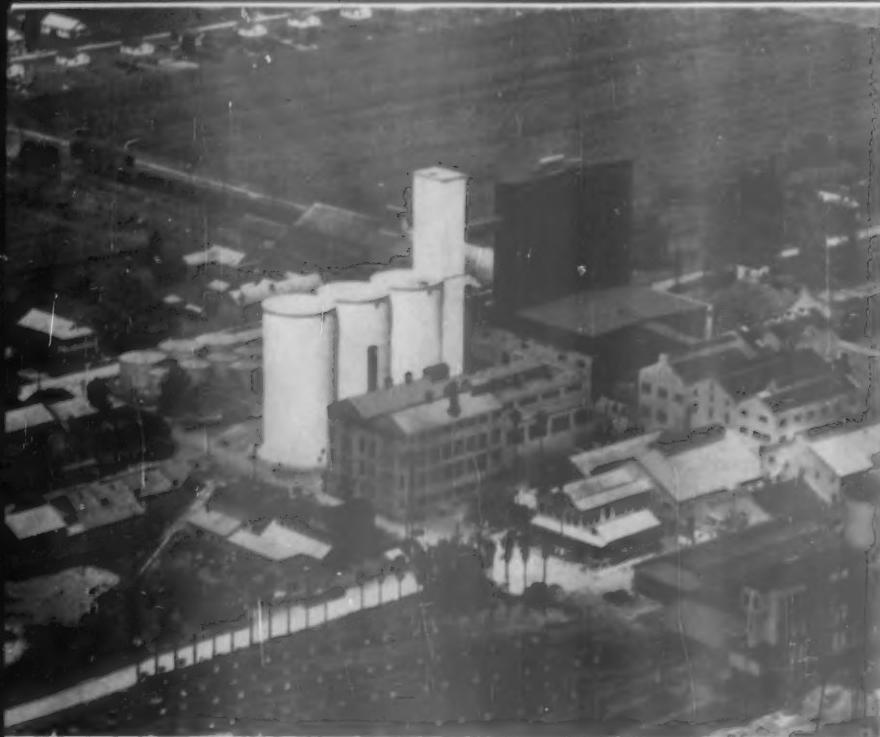
- a. Name.
- b. Date and time.
- c. Nature of injury.
- d. Treatment.
- e. Disposition of case—referred to doctor, hospital, home, or returned to work.

5. Refer the patient to a doctor if there is any question as to the need for medical attention. In any event, check with the injured person the day after the accident and refer to a doctor if the condition has not improved.

6. Information concerning local medical resources should be posted where easily accessible or placed in the first-aid kit:

- a. Name and telephone number of physician on call and of two other physicians in case call-doctor cannot be reached—if in accordance with state regulations.
- b. Name and phone number of nearest hospital and ambulance service.





Part of the Reserve, La., location. The white sugar silos are air-conditioned. They have a combined storage capacity of 22,500,000 tons.

From Field to Warehouse

By ANDREW LOCKHART

ONE of the largest and most complete sugar refineries in the world is located in the town of Reserve, Louisiana. This plant is at one of the three operating locations owned by Godchaux Sugars, Inc. The plant produces approximately 2,500,000 pounds of granulated sugar daily. One day's production is sufficient to sweeten a morning cup of coffee for everyone in the United States.

The company is engaged in all phases of cane sugar processing, from the growing of cane (on the plantations) to the delivery of refined sugar to the jobber or wholesaler. The most important part of its business is the refining of raw sugar, which is not confined to its own production, but

Through all the stages of processing the sugar cane the Godchaux safety program is on the job



Small steam locomotive hauling harvested cane from plantation to mill.

ANDREW LOCKHART is Supervisor, Engineering Department, American Associated Insurance Companies, New Orleans. He is news editor and member at large, Delta Chapter, American Society of Safety Engineers and Delta Safety Society.

includes each year the refining of large amounts of Cuban, Puerto Rican and, in normal times, Philippine raw sugar, which is delivered to the refinery through the Port of New Orleans.

Along with the improvement in products and techniques, the company has always insisted on a good safety program for the protection of employees. Some of them are local residents who can trace their background to the Acadians who settled in the area of Southern Louisiana about two hundred years ago. A number of the employees have worked forty years or more at Godchaux, and it is not uncommon to have fathers and sons, mothers and daughters, working at the plant. The company, from the beginning, has taken an interest in its employees and many of the employees are provided with homes on Godchaux property. The families grow, you might say, in the Godchaux tradition.

Since 1930, the company has had a safety program that has increased in intensity with the development of the organization. In 1935, a safety engineer was hired and the stage was set for a formal program that would include all the elements of safe working practices. Management has been tireless in its effort to put this program on a working basis, and

they have been spurred on in their efforts by their knowledge that accident prevention has saved lives and avoided a lot of suffering.

Today, a professional safety engineer, Louis Bruder, guides the safety program. Every department is organized along safety lines, safety committee meetings are held weekly, and an inspection of the plants is held on

a regular schedule. Medical facilities are provided on the premises, and the union representatives cooperate in providing safe conditions throughout the plant, together with compliance with all safety recommendations made by union members.

Once a year, at the Raceland Plantation, a general Safety Banquet is held for all employees;

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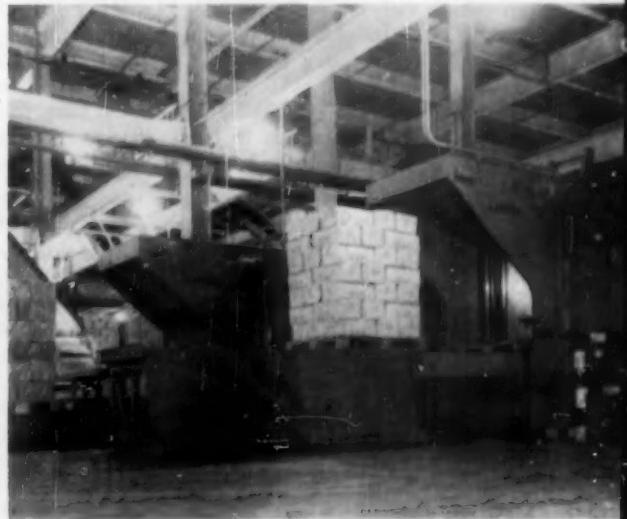


Packaging department. Container filling, packaging and sealing have been made completely automatic. All exposed moving parts are guarded.

Cane harvester cutting sugar cane in the field.



Loader automatically loads skids with 60-pound bags and transfers them to conveyor for pick up by industrial truck.





Beware of the Dog!

By EVELYN MONTE



Will he bite? That depends largely on you. Here are some suggestions based on experience in canine psychology

ONE way to avoid dog bites, of course, is to avoid dogs. But with 22½ million dogs in this country—a count established in a survey made by the Gaines Dog Research Center . . . it's not likely that anyone can go through life without meeting a dog. It also appears that we don't want to avoid dogs.

We are a dog-loving nation. We didn't get that way because dogs go around biting people. We love dogs because they deserve it. No doubt some are more deserving than others but, generally speaking, it is rare indeed to have an experience with a dog that isn't a happy one.

Let's consider the dog's side of the case. Using his teeth is the only way a dog can defend himself against real danger or against something feared or threatening.

A dog barks at the stranger who comes on his home grounds because he instinctively has a strong sense of responsibility. This protective instinct started some 8,000 years ago when some

Mrs. EVELYN MONTE is with Gaines Dog Research Center. This article has been condensed from a talk before the Sixth Annual Conference, Accident Prevention Committee, American Gas Association.

absent-minded cave man threw a bone to the wild creature that hung around outside the cave . . . the original dog creature.

It wasn't long before the dog showed the cave man how useful he could be as a hunter. He had decided to adopt man and man couldn't do a thing about it. Of course, it wasn't long before the dog was allowed in the cave, in the manner of most dogs who get to the doorstep.

Then the dog, always a grateful creature, took on the responsibility of protecting the cave man's family against wild animals, or perhaps, other cave men. Ever since, most dogs have the idea that the family, the house and everything in it are completely helpless without them.

Dogs Are Individuals

It is this strong sense of responsibility that puts a dog on the defensive. Now, being a guardian doesn't mean that the dog has been trained to be a watch dog or an attack dog, and it doesn't mean that he is necessarily the big, forceful type. Very often a tiny dog weighing around four pounds is a savage defender of his territorial rights.

Like people, some dogs may be rather aloof, until you have won them over. There are good-natured dogs who accept everyone as a friend. There are nervous, excitable dogs who have the same symptoms as the humans we speak of as neurotic. There are stupid dogs and dogs that are just plain ornery.

Many a pup, naturally good natured and trustworthy, has grown to be a public enemy through no fault of his own—the result, perhaps, of ill treatment or misunderstanding. Continued, senseless teasing is one cause. Kindness can often rehabilitate such dogs.

The extremely timid dog is often the nervous, excitable neurotic. This type of dog will approach a stranger in a series of rushes, barking hysterically, but never coming near enough for actual contact. With such a dog you can continue walking toward him. Although his barks may grow more ferocious, he won't attack as long as you face him.

This type is similar to the cowardly dog, except that often the coward will not bark. Barking is for two purposes, to give warning and to attract attention. The

coward doesn't want to do either. He might lie in wait beyond a bush, or around a corner, and come up from the rear to make a quick nip at your heels, but he has no stomach for a give-and-take and will retreat in haste if you turn and face him.

The average dog rarely bites without reason—or what he believes to be a reason. In the close-living civilization of today, most dogs are used to neighbors and visitors. They may bark, but they are generally friendly.

Why, then, have the letter carrier, the milkman, the meter reader and bill collector been plagued for years with dogs that bark at them and sometimes take pieces out of them?

In the first place, a dog's vision isn't the best in the world. His nose is wonderful and so is his hearing, but under ordinary circumstances the dog's use of vision is distinctly limited. At a distance he sees outlines rather than details. So when a dog sees an outline that is different—the outline of a uniform, a cap instead of a hat, perhaps of work clothes instead of a business suit—it's strange and different.

In the case of the milkman, he sees the outline of a uniform and, moreover, this fellow is carrying something that makes a clatter. The dog barks. He has every right to bark and should bark. That is his way of telling his family that someone is approaching, but because this someone looks different, the dog barks more ferociously. Now given time, the mailman or serviceman might work things out together and become good friends. Many a dog gets so friendly with the mailman that he goes on his rounds with him.

But then enters the human equation in the form of a busy housewife who doesn't let the dog get acquainted with this new visitor. Instead, she comes to the door and shouts at the dog or runs out and grabs him, perhaps gives him a few slaps, and hustles him into the house behind a closed door.

Now the dog knows there's

Standards Aren't Strait Jackets

By ROGER E. GAY

PEOPLE have finally stopped arguing that standardization is a force that tends to freeze design prematurely, impede progress, and lead to dull uniformity.

Technical people, of course, never suffered from the delusion that standards are a mold into which processes, materials, and methods are poured so that they will come out in identical shapes. This was, rather, an error of the non-technically trained intellectual who is always willing to hand down an opinion—frequently wrong—on any subject.

As we change and grow in this country, some things are going to become more and more complicated. We already have the most interdependent economy the world has ever known, but each of us in the future will become more and more of a specialist in an ever-narrowing field, and thus will be more dependent on others in different fields.

Life in the New Machine Age ahead of us will bring complications that could add up to frustration, annoyances, steady wear and tear, and net inefficiency.

These new complexities will grow worse in direct proportion to the control or lack of control we have over the machinery we are building up to do our work. When the machine breaks down—when the gadget works badly or doesn't work at all—we are worse off than we were with no machine.

If we are going to develop true efficiency in the period of change and growth ahead, if we are to keep from wearing ourselves to a frazzle in a crowded country, then we have got to make the big machine work.

We must make things fit. Repair parts must be interchangeable, simple, accessible. Bottlenecks must be broken. Words must mean the same thing to all our people. Symbols must stand for the same meaning in blueprints, drawings and purchase orders everywhere.

In other words, we must work with some organized means to achieve the harmonious integration of human activities. And that is a classic textbook definition of standardization.

—From an address by Roger E. Gay, president of the American Standards Association at the Association's 36th Annual Meeting and the Fifth National Conference on Standards, New York, November 15, 1954.

something wrong with the caller. His mistress gets all excited, she's frightened—and it's amazing how many people are afraid to try to control their dogs.

So the next time the dog sees this same outline, he associates it with a very unpleasant occasion, and dogs have a way of remembering.

If no one is around the next time to haul him away when he sees this person, he is ready to give it another go, and this time decides he'd better take care of

things. If the dog is an average dog and the meter reader isn't scared out of his wits, there is still hope that they can become friends.

On that first meeting, if the housewife had spoken reassuringly to the dog, then snapped on his leash or had taken him by the collar and led him up to the stranger and allowed him to nose around and get acquainted, it's not likely that there'd ever be trouble again.

—To page 88

State, Community and Plant

By G. SCOTT KALLENBAUGH

Through well-organized community programs, the state is able to give its industries more effective safety service

LONG before Ohio became a state, public safety was one of the paramount issues. From the time of the early expeditions into the Ohio country, starting originally from Fort Duquesne (later Fort Pitt), and extending throughout the Ohio Valley to Forts Washington, Hamilton, Henry, Greenville and Defiance, the community spirit and the need for community safety was necessary for survival. As other communities were established throughout the territory, blockhouses and stockades were erected for the safety of the inhabitants.

As early as 1775, there was formed a Committee of Public Safety. This committee petitioned Congress for assistance in solving their mutual problems and in the fall of that year, action was taken at Fort Pitt in an effort to assure the settlers of greater safety in the pursuit of their livelihood.

In 1884, seventy years ago, the first Division of Factory and Building Inspection in Ohio was established with a budget of \$1500.

In 1912, The Industrial Commission was created by the Ohio Legislature. On January 13, 1915, Governor Willis called to order the first Safety Exposition by a state agency in this country.

Those in attendance represented both labor and management and included the names of the out-

standing leaders of their day from both groups. The companies represented were then actively interested in safety. The National Safety Council was represented at this meeting by its president, Mr. R. W. Campbell.

Exhibitors were present from many companies that are the leaders in our safety movement today. The largest exhibit at this opening meeting was by the United States Steel Corporation. To mention only a few of the others we should include Armco Steel, Eastman Kodak, Inland Steel, Norfolk and Western Railroad, New York Central Railroad, The Norton Company, Safety Engineering, Travelers Insurance Company and the Youngstown Steel and Tube Company. In all there were 27 exhibitors.

While we are uncertain as to the first community safety group in Ohio, we know that one of the exhibitors at this particular meeting was the Youngstown Safety Council.

Funds for Prevention

In 1925, by a Constitutional Amendment, The Industrial Commission of Ohio was required to set aside each year a percentage of the premiums received from the employers to be used for the investigation and prevention of industrial accidents and disease.

Early records of the Division indicate an upsurge in both statewide and local safety campaigns. Up to this time, many of these struggled along using local funds and relying primarily upon the interest of individuals in their respective companies.

It was about this time that the Division of Safety and Hygiene of The Industrial Commission realized that, due to limited funds and personnel (which, incidentally, exists to this day), to meet the needs of small employers, ways and means must be taken through local groups and the plan of co-sponsoring these organizations with financial assistance and other means was developed.

Missionary Work

Some of the early safety councils prospered from the beginning but in many the same few individuals carried on as before with very little increase in membership. The work that was being performed by the active councils was spread throughout industry in Ohio by representatives of the Division. Lower operating costs due to better accident experience was stressed and the safety experience in one community was upheld when compared with that of another.

Employers in the same field of endeavor soon realized that a competitor in a neighboring city was experiencing far better rates through safety efforts than those without programs and many of the local safety councils have been formed in Ohio by request to the Division for assistance. While these community campaigns originally were confined to the city, they now cover the employers in the county, and with this spread of activities the enrollment of the councils has increased. Many of the smaller companies unable to employ full-time safety men now receive service and advice from

G. SCOTT KALLENBAUGH is Assistant Superintendent, Division of Safety and Hygiene, The Industrial Commission of Ohio, Columbus, Ohio. This article has been condensed slightly from a talk at the Session on Safety Services to Industry by the States, 42nd National Safety Congress.

the larger companies who have the "know-how" and the means to carry out complete safety programs.

Sharing Knowledge

The competitive spirit, similar to that found in other lines of endeavor, was developed years ago. Frequency and severity in the industry of a community have become as important as the winning of the annual football game between the high schools of these respective areas. In order to maintain a low frequency, the secretary of the local council carefully scrutinizes the frequency and type of accidents being experienced by one of their members. He in turn will discuss this with the affected company and suggest another company having similar operations and good experience, as a possible source of information for the correction of their troubles.

The zealous secrecy that once existed in industrial plants as to the methods they were employing to secure low accident frequency and severity, has been broken down and a fine cooperative spirit among safety personnel now exists.

We have today in Ohio, more than forty such local councils each striving to lower their frequency over the preceding year and attempting to win for their council, and the individual companies, one of the numerous awards granted in connection with these campaigns. An outstanding example of the efforts of one council last year (Mansfield) shows a 48 per cent decrease in occupational accident frequency and every council showed some decrease in accidents. It is, of course, impossible to figure the production man-hours saved, reduction in suffering and total disability or to evaluate in dollars and cents the work of these programs.

In addition to the local safety campaigns, Ohio co-sponsors 21 state-wide industrial campaigns.

An annual Awards Banquet, again co-sponsored and partially financed by the Division, is held each year by the local councils. A prominent speaker is provided

for this meeting and the awards for the various industrial groups together with the 100 per cent winners are presented by a member of the Industrial Commission. During the past ten years, a new feature, a regional one day safety conference, has been conducted by a number of the local councils in cooperation with the Division. These are broken down into industrial sessions. At the time of these award dinners, other safety activities in the community such as traffic, school, home and farm safety, are included. The Industrial Commission's activities are confined entirely to the industrial phase of the meeting.

The ground work for community interest in safety councils is started in many instances by members of our field staff in the course of their surveys or special services. They advise the employer of the work being done by

a council from another community having industries with similar operations and the interest that such community councils have created in that particular locality. In this manner, the seed is sown in the minds of a few employers and later becomes the subject of discussion at the local Chamber of Commerce, Trades Associations or one of the numerous Service Clubs that hold weekly luncheons. We are generally advised by the field men that there are possibilities of starting a safety campaign in this new location.

On the Division staff is a full time campaign manager whose duty is to contact representatives of the employers' group and explain the advantages of such a local council, what they could expect in the way of help from the Division, and the benefits that would be derived by the members of such an organization through better safety programs in their individual plants, thereby receiving lower premium rates and creating a more desirable employment area.

Her Hero



For saving the life of his five-year-old-daughter, Robert Bechtold of Massillon, Ohio, was awarded the President's Medal of the National Safety Council. A foreman at Republic Steel Corporation's Massillon plant, Bechtold last summer pulled the drowning girl, Roberta, from a pond and brought her back to consciousness by applying artificial respiration. He learned the lifesaving technique in first-aid training classes held at the Republic plant.

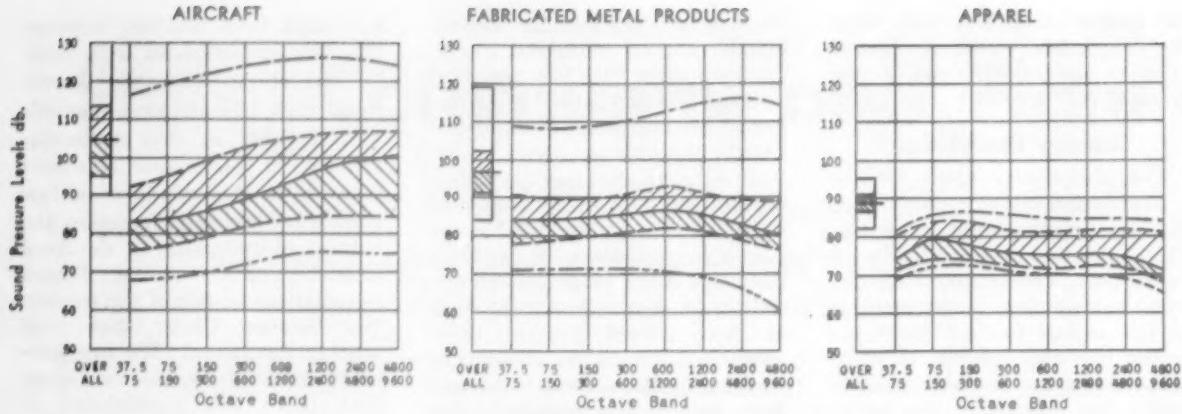
A Reputation for Danger

From a manpower standpoint, nothing hurts a community more than to have its plants branded as slaughter houses. From this point on, the activities of forming a safety council are pretty much taken over by the local people and we have yet to find a community that does not have a few far-sighted men who can appreciate the advantages of a local council.

We have found that we receive far more requests for assistance from industries in an area having safety councils even to the extent that new businesses coming into those localities request advice of our engineers in the plant layout before the mechanical equipment has been installed.

In this age of new solvents and new processes, coupled with the fact that Ohio has Codes of Specific Safety Requirements, all of which have the effect of law,

—To page 111



1. Curves showing sound pressure levels in the aircraft and other industries. These levels exist very near machine and equipment operators.

Measures That Curb Noise

By G. L. BONVALLET

Noise levels are high in some industries and may go even higher.
Control measures are seldom cheap or easy but the need is great

THE AIRCRAFT INDUSTRY, like many others, has noise problems which are of interest to the safety engineer. These problems are important because of the possible interference of noise with communication, and therefore safety, and because of the possible hazard to hearing.

Surveys have shown the situation with regard to noise in the industry. Figure 1 from one of these¹ shows data for comparison purposes. The common noise sources that are responsible include machines, tools and test facilities. These problems, therefore, need study by the safety engineer, the plant engineer, and management.

G. L. BONVALLET is Research Physicist, Armour Research Foundation of Illinois Institute of Technology, Chicago. This article was presented before the Aeronautical Industries Section, 42nd National Safety Congress.

The literature is sadly lacking in practical information on noise control, only a little really helpful material with any degree of completeness being available. Some of the information here has appeared in a very helpful article.²

One of the first questions a safety engineer asks is whether he has a noise problem. This is best answered by looking at a sound analysis of a machine noise condition and comparing it with the sound levels of shouted speech which might be used as a warning.

If the tool noise is higher, then an employee working in the noise field is prevented from hearing such warnings. He may also be immersed in a noise field that is louder than other warnings, such as sirens or nearby tool noises that indicate trouble. Figure 2, described fully in Reference 2, shows such conditions.

A less common but very important problem concerns possible hearing damage. If a worker is exposed to intense steady state noise fields continuously or for a great part of the work day, and for long periods of time, then he may suffer damage to his hearing. Such hazardous conditions have not been established, although some preliminary work has been done in this regard.³ The acoustical engineer needs some kind of figures to work with and Figure 3 shows two which have been used. Discussion of these appears in the literature.⁴

When it is known that a problem exists, then the exposure must be decreased or the noise must be reduced to levels such as those indicated above. In some cases the services of an expert acoustical engineer or physicist may be desirable to get greatest reduction per dollar. In others

the safety engineer may work with a plant or mechanical engineer to reduce the objectionable condition.

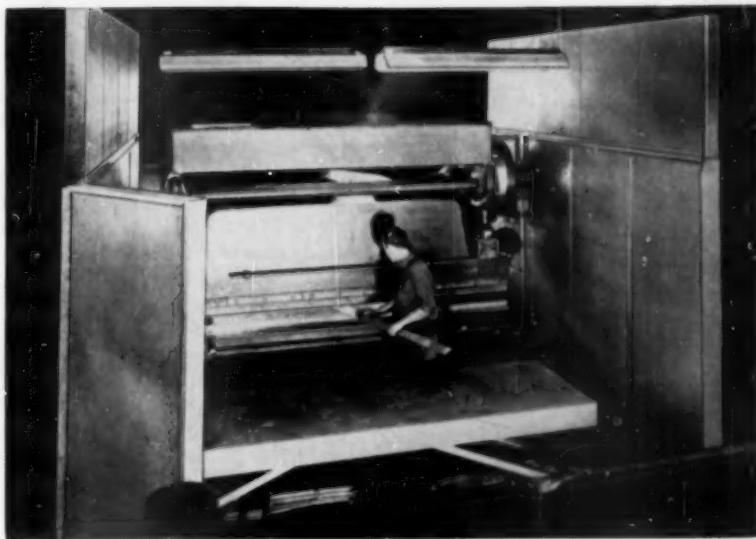
Types of Control

Noise control techniques involve the following:

1. Reduction at source, along transmission paths, or at noise radiating surfaces. Includes substitution of tools.
2. Use of full or part enclosures, and ceiling treatments.
3. Personnel techniques such as use of ear protection or simply reducing exposure by moving the worker away from the noisy area, either full or part time.

The pneumatic grinder is a tool with an intense noise. One manufacturer has shown⁵ that this noise can be greatly reduced by proper attention at the source. Other tools and machines do not submit to modification at the source and transmission paths along shafts and frames must be broken up with the use of resilient materials. Still others have noise radiating surfaces which can be made less effective by greatly reducing the areas, by perforating them, or by damping them with mastic, sheet metal, or other mechanical means.

Two principles must be remembered in noise reduction. First, only a large reduction, on the order of about 10 db, is worth obtaining generally. Second, the most important components should receive first attention. An



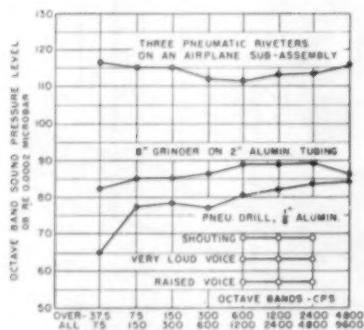
4. The noise of a machine may be reduced in the surrounding area by means of a partial enclosure around it. A reduction of 3 to 15 db may be realized by using a partial enclosure.

Photo Courtesy of Industrial Sound Control, Inc.

example of the latter is that reasonably intense noise in the hazardous frequency region of 800-3000 cycles should receive attention before components at 100-200 cps which might be of even slightly greater intensity. At the same intensity, noise at the lower frequencies indicated is less hazardous to hearing and less likely to interfere with speech and warnings than that at the higher frequencies mentioned. Fortunately, sound at higher frequencies is generally easier to control than that at low frequencies.

be rendered less effective by holding in a vise with wood blocks, by working it on a wood bench top rather than on a steel bench, or damping it with a suitable material.

Many machines are noisy because of loose or worn parts or because of inadequate lubrication. Plant engineers have found that proper maintenance reduces noise in addition to preserving the equipment. Many machines which have a spent air exhaust have been made less noisy with com-



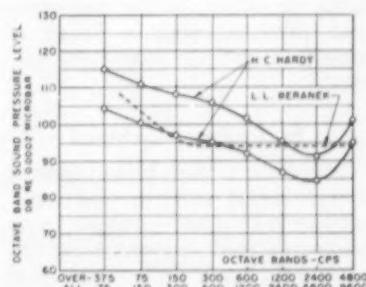
2. Sound levels of machines and operations (above) and speech interference levels (below). An employee working in levels which are more intense than shouted speech may not hear shouted warnings.

Quieter Tools

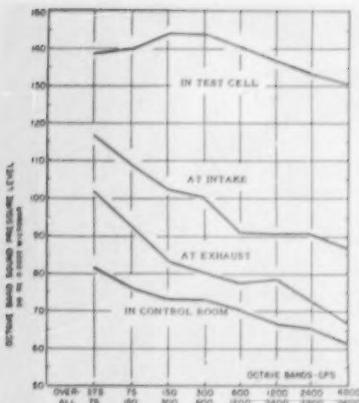
Substitution of less noisy tools is a method of reducing noise. The compression riveter has an impact and a spent air phase and is less noisy than the common riveter. Other tool substitutions have been mentioned in the literature.⁶

The tool user can greatly improve future conditions by asking for noise specifications before purchasing tools and by encouraging machine manufacturers to pay attention to their noise problems.

Often the piece being worked on is doing the radiating and can



3. Estimated sound levels (Hardy and Beranek) which may be hazardous to hearing. Levels below the lower full line may not be hazardous to hearing. Levels above the dashed line may be hazardous, and those above the upper full line probably are hazardous. These tentative figures apply only for continuous exposure for the greater part of the day for several years to steady-state broadband noise.



5. Sound pressure levels in and around a well-designed test cell. The noise of the engine will be reduced to less than 80 db in most octave bands in the control room. It will also be greatly reduced at the intake and exhaust outlets.

mercially available exhaust silencers.⁶ This is extremely important where there are many workers each at such a machine.

One of the newer methods that is being more and more widely used involves part and full enclosures around machines. Figure 4 shows a partial enclosure. A reduction of from 3 to 15 db in the important high frequency range can be realized, depending on the sound shadow provided. Such constructions do not provide reduced noise to the operator of the machine because he is in the direct path of the sound. Partial enclosures should be built of plywood, sheet steel, rock lathe or other similar materials and provided with a lining of sound absorbing acoustical material.

Enclosing Machines

More use is now being made of complete enclosures around punch presses and other machines with automatic feed and which are unattended. Noise reductions up to 40 db in the high frequency regions may be realized. Walls for these installations can be plywood, rock lath, sheet steel or other heavy material and should be lined with acoustical material for sound absorption. Thus a machine that makes noise measuring 90 db in the 1200-2400 cps octave

band is reduced by 40 db down to 50 db in the same band.

Covers which completely enclose small machines and engines and the like are often employed. Special attention is needed in these cases sometimes, involving isolation between machine and cover, use of mastic on metal panels to reduce noise of vibration of large areas, and double layer sheet metal for self damping.

Ceiling Treatment

Ceiling treatment with sound absorbing acoustical material is beneficial in those cases where a large noise reduction is not needed. A good installation in a machinery room 100 by 100 by 20 ft. may produce a reduction of 5 to 8 db in most octave bands. Many airplane assembly areas are much larger and higher, and almost approximate the out of doors. In these cases the reduction might not be so great as that mentioned. Other benefits result, however.

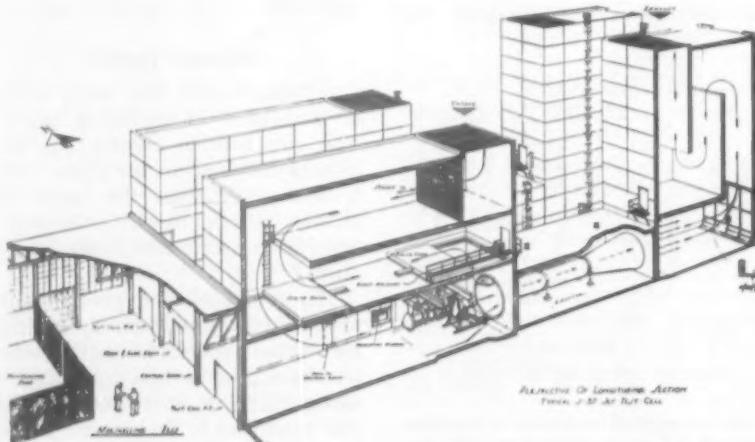
Difficulties are often encountered in usual ceiling treatments attached flat against the ceiling, and more recent methods of adding sound absorption involve space absorbers which hang from the ceiling. This type of treatment is becoming increasingly common.

Ear protectors may be neces-

sary in certain noise problems, but there are difficulties involved in assuring their use especially when many people in an area are concerned. The common complaint that they prevent hearing shouted speech or warning signals in noise is not true. Both the area noise and warning signals are reduced in loudness, but the reduced levels are more free of distortion that goes with high levels and therefore sounds are more intelligible. Ear inserts cannot be expected to reduce noise by more than 50 db at the most, because sound gets to the inner ear through the skull, through the face, or the chest. Thus an enclosure may be needed around the head and chest if ear protectors are insufficient in which case a maximum of 60 db reduction is about the most that can be expected.

Test Cells

Test cells are a subject by themselves and call for expert attention for the most silencing per dollar. Such constructions almost certainly require the services of acoustical engineers with experience in this specialized field. Noise levels for jet engines range from 130 to 150 db in most octave bands near the engine. With proper construction the noise in the control room will be under 80



6. Test cell built for Ford Motor Company and located at Chicago. This silencing construction performs extremely satisfactorily.

db in most octave bands and will be greatly reduced at the intake and exhaust outlets. Figure 5 shows conditions in and near a well-designed test cell. Such conditions are then satisfactory with respect to community noise, and employees are not exposed to hazardous levels. This test cell problem is currently very important and at a special session⁷ of the Acoustical Society of America devoted to aircraft noise, half of the papers presented were on test cells.

Figure 6 shows a test cell built for the Ford Motor Company in Chicago which has proved to be extremely satisfactory.

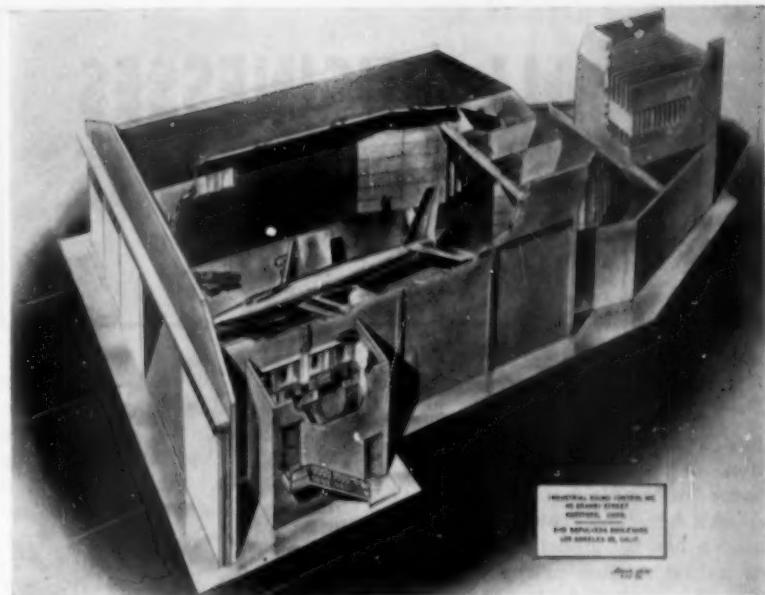
A somewhat different situation exists with run-up tests with an airplane. This is usually done on the outside. It usually is responsible for a community noise problem as well as hazardous noise conditions for workers who must be near the airplane to make adjustments. Figure 7 shows levels in the 1200-2400 cps octave band around a single engine jet plane at 50 ft.⁸ Sound pressures in dynes per square centimeter are given but the maxima correspond to 113, 121, and 127 db, respectively. It will be observed that highest levels occur approximately 45° from the axis at the rear.

These Will Help

There are a number of suggestions which must be considered in reducing employee exposure:

1. Reduce the number of workers exposed.
2. Reduce the time of exposure.
3. Reduce the time of engine operation at full speed.
4. Provide silencing means for intake and exhaust.
5. Insist on ear protectors or other protection for nearby workers and supply acoustic barricades or blast fences for those farther away.

Figure 8 shows a building designed for Douglas Aircraft Company to receive the whole airplane for test operations. Other constructions have been made for portable use.



B. Photograph showing a building to house an airplane to silence the noise while operating. Courtesy Industrial Sound Control, Inc.

The noise problems of the aircraft industry are very important to the safety engineer because the levels are getting increasingly higher. With application of good acoustical engineering, most of these problems can be satisfactorily solved.

* * *

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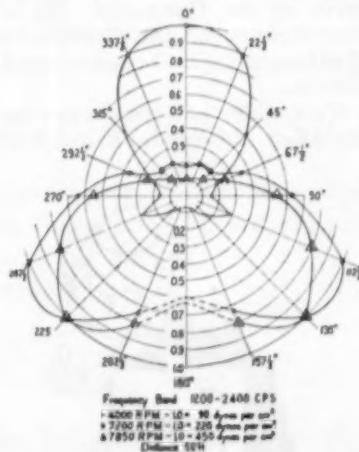
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7. Distribution of sound pressure in the 1200-2400 cps octave band around a turbo-jet engine. Highest levels occur about 45° off the axis to the rear of the engine.

SMALL BUSINESSES and ASSOCIATIONS

By A. M. BALTZER and ROBERT D. CURRIE

Small Business Program Staff
National Safety Council

An Expanding Program

The American Gas Association has expanded its accident prevention activities far beyond the scope of employee safety. The AGA's Accident Prevention Committee has reached into the field of public service in the prevention of home accidents and is currently engaged in a motor vehicle accident reduction campaign.

The Accident Prevention Committee of this Association recently worked out a jointly sponsored program with the National Safety Council. Briefly, this program is built around a fleet safety contest, designed to bring about:

1. Uniformity of statistical information on Fleet Records of the Gas Industry.

2. Establishment of standards within the Industry to form the basis for analysis and recommendations for corrective action Industry wide.

3. Give the Industry a media for exchanging and disseminating current motor vehicle accident experience.

The Association's co-sponsorship of a "Gas Industry" division of the National Fleet Safety Contest allows participation for all members of the AGA, whether or not they are members of the Council.

In receiving the Council's Home Safety Merit Award, the AGA was recognized for the work done in a joint program by the AGA and the American Automobile Association to eliminate accidents in transient facilities resulting from improper use and installations of unvented room heaters. The AAA was asked to refuse the use of its symbol of approval unless the room heater installation complied with the recommended codes developed by the AGA. As a result of this program, more than 54,000 room

heaters in 2,000 establishments were replaced by approved equipment. Furthermore, several states have enacted legislation requiring all owners of such facilities to follow essentially the same requirements.

We feel that this is well diversified safety activity, yet it is not spread so thin that results of these activities go unnoticed.

Our Committee Expands

The Small Business and Associations Committee has been strengthened through the addition of several members who are familiar with small firms and their safety problems.

H. F. Reinhard remains as chairman and Ivan F. LeGore as vice-chairman of the Committee.

Vincent P. Ahearn, executive secretary, National Sand and Gravel Assoc., Washington, D. C., has accepted an invitation to serve on the Committee. He is also director of the President's Conference on Occupational Safety.

Two additional members representing state-wide organiza-

tions have agreed to serve on our Committee. E. Russell Bartley, Director, Industrial Relations, Illinois Manufacturers Association, and Robert W. Gillette, secretary-treasurer, Wisconsin Council of Safety, Madison, are helping the smaller firms with their safety problems at the state and local levels through neighborhood and local safety conferences.

Clark Bridges, American Medical Association, replaces Dr. Carl M. Peterson, secretary of the AMA Council on Industrial Health.

Jack Kneupfer, Director, General Engineering Works, Chicago, is a small business man who has agreed to help the Committee. His firm employs 80 people and has a most enviable safety record for a small or a large business—eight lost time cases in 32 years!

Herb Reinhard feels that the staff has a resourceful Committee backing its efforts and that real progress is being made in promoting safety in small companies.

West Coast Does It Again

The Pacific Coast Association of Pulp and Paper Manufacturers recently sent us their 155-page Proceedings of the Eighth Annual Pulp and Paper Joint Labor-Management Safety Conference. As expected, the Proceedings repeatedly refer to the amazing record of an 80 per cent reduction in injury frequency rates since the Conference started in 1946 but, it was the appearance of the printed Proceedings that was most newsworthy.

The Proceedings represented the most attractive bit of conference reporting—safety or otherwise—that we have ever seen. Practically every page is highlighted by cartoon characters (such as shown on this page), graphs, drawings and photographs that improve the story and create interest.

As a matter of fact, we thought so highly of these Proceedings that we secured permission to use some of the sketches in our Association's News Letter which goes out quarterly to 700 trade and manufacturing associations, chambers of commerce and local safety councils.



This is "Pulp Miller," symbol of safety for the Pacific Coast Association of Pulp and Paper Manufacturers.

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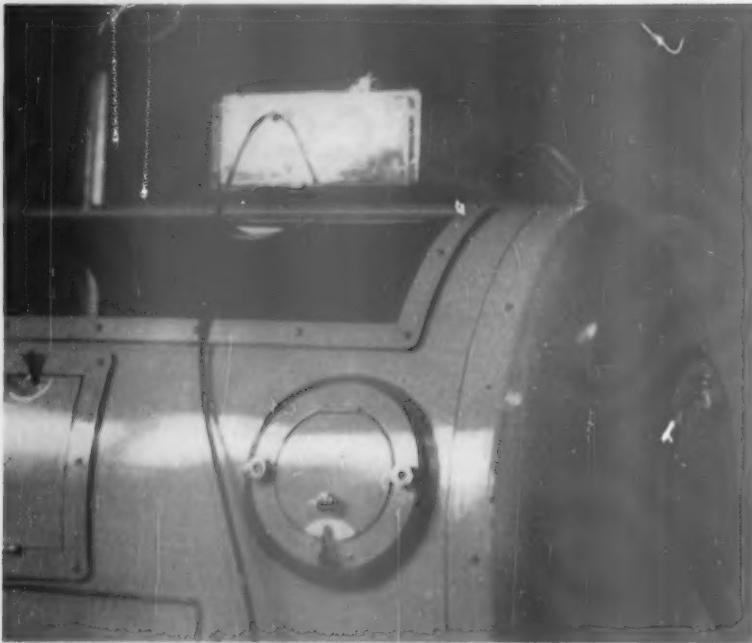
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Greater Safety for Iron Lung Patients



When falling pressure, power shortage, pulled electrical plugs put the iron lung out of commission, the two red lights on top flash and a bell sounds. If the nurse forgets to turn on the safety device when the patient is placed in the lung, a warning sounds automatically.

AN INVENTOR and a safety expert have come up with a new answer to the old problem of how to provide greater protection to safeguard the lives of polio patients in iron lungs.

Their answer is a unique device that will sound an alarm as soon as any dangerous conditions develop, such as falling pressure, power shortage or pulled electrical plug. It even will give a warning if someone should forget to turn it on properly after a patient has been replaced in the respirator.

The device was invented by Irby B. Chamberl of Fresno, head of Electro Alarm Safety Devices, and was perfected with the assistance of Robert L. Moore, a consulting engineer for Lumbermens Mutual Casualty Company and affiliated companies.

The new device was unveiled October 15 at Evanston (Ill.) Hospital which has taken care of

the largest polio caseload of any privately supported hospital in the Chicago area during the past three years. W. Dean Keefer, vice-president of Lumbermens, presented it to the hospital as part of his organization's drive to highlight the need for safety devices on all iron lungs.

A patient in an iron lung at the hospital never is left alone and all mechanical parts of a respirator are checked daily, said A. B. Cook, hospital administrator.

"The device will be an added safety feature since it will alert nurses at once to a possibly dangerous condition," he said.

As soon as Chamberl, the inventor, had developed the first model of his safety device, he asked Moore for suggestions on perfecting it. Moore, interested in the safety of polio patients since his organization became prominent in the polio insurance field, immediately conferred with

a number of polio specialists throughout the country. His findings included:

1. Some safety devices were available but usually were made for one type of iron lung only.

2. Not enough respirators were equipped with safety devices.

3. What was needed was a device that could work on any type of iron lung, including the rocking-bed type, incorporating the features that the polio specialists said were essential.

Moore relayed this information, plus a host of ideas he had collected, to Chamberl. After Chamberl had made the suggested changes, a series of rigorous tests were arranged for the device in a large California polio treatment center. The tests proved that the new device would do what Chamberl and Moore had hoped.

Here is how it operates: The device can be attached to any type of respirator. If there is a drop in pressure inside the lung because of a leak or if the pressure becomes inadequate to sustain the patient, the device will ring a bell and flash two red lights. This will alert the nurse on duty to possible trouble and will give her time to begin operating the bellows manually if necessary.

If the current should fail for any reason, the device will switch automatically to a battery circuit and sound an alarm.

If the patient wants to summon a nurse, all he has to do is turn his head to touch a wedge-shaped switch located underneath the pillow.

The device can be rigged to sound the alarm elsewhere in the hospital—or a home—in addition to the patient's room.

The device's most unique feature is the "automatic reminder." For example, if a patient has to be removed from the iron lung for a short period, the device would ring the bell and flash the lights because of the sudden pressure drop and the power cut. Therefore, the nurse will flip a switch to disconnect the device.

If, when the patient is returned to the iron lung, the nurse forgets to turn on the safety device, it will wait exactly 10 seconds and then start the bell ringing and the lights flashing until the nurse reactivates it properly.



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COMING EVENTS



In the Field of Safety

Feb. 27, Mar. 1, New Orleans

Southern Safety Conference and Exposition (Jung Hotel). W. L. Groth, executive director, P.O. Box 8927, Richmond 25, Va.

Mar. 1-3, Urbana, Ill.

Forty-first Illinois Annual Conference on Highway Engineering. William S. Pollard, Jr., assistant conference director, College of Engineering, University of Illinois, Urbana, Ill.

Mar. 8-9, Philadelphia

Twenty-first Annual Philadelphia Regional Safety and Fire Conference and Exhibit. (Broadwood Hotel). Walter W. Matthews, managing director, Philadelphia Safety Council, 17th and Sansom Streets, Philadelphia 3, Pa.

Mar. 21-22, Houston, Texas

Annual Texas Safety Conference (Rice Hotel). J. O. Musick, general manager, Texas Safety Association, Inc., 830 Littlefield Bldg., Austin, Texas.

Mar. 21-23, Los Angeles

Second Annual Southern California Safety Congress and Exhibit. (Ambassador Hotel). Joseph M. Kaplan, secretary-manager, Greater Los Angeles Chapter, NSC, 610 South Main St., Los Angeles 14.

Mar. 29-31, Pittsburgh, Pa.

Thirty-fifth Annual Western Pennsylvania Safety Engineering Conference and Exhibit (Hotel William Penn). Harry H. Brainerd, executive manager, 605 Park Bldg., Pittsburgh 22, Pa.

Mar. 30-31, Indianapolis

Eighth Central Indiana Safety Conference and Exhibit (Claypool Hotel). Jack E. Gunnell, Indianapolis Safety Council, 320 N. Meridian St., Indianapolis 11, Ind.

Mar. 31, Apr. 1, Kansas City, Mo.

Central States Safety Congress (Municipal Auditorium and President Hotel). George M. Burns, director, Kansas City Safety Council, 419 Dwight Bldg., Kansas City, Mo.

Apr. 4-5, Toronto, Ont.

Industrial Accident Prevention Associations, Annual Conference (Royal York Hotel). R. G. D. Anderson, general manager, 90 Harbour St., Toronto 1, Ont.

Apr. 11-15, New York

Twenty-fifth Annual Safety Convention and Exposition, Greater New York Safety Council. (Hotel Statler). Paul F. Stricker, executive vice-president, Greater New York Safety Council, 60 East 42nd Street, New York 17.

Apr. 19-20, Fort Wayne, Ind.

Northeastern Indiana Safety Conference and Exposition (Chamber of Commerce Building). Ivan A. Martin, manager, Safety Council, Chamber of Commerce of Fort Wayne, Fort Wayne 2, Ind.

Apr. 19-21, Niagara Falls, N. Y.

Fifteenth Western New York Safety Conference, in cooperation with the American Society of Safety Engineers (Niagara Hotel). Patsy E. Gismondi, executive secretary, 1436 Delaware Ave., Buffalo 9, N. Y.

Apr. 26-28, Grand Rapids, Mich.

Twenty-fifth Annual Michigan Safety Conference. (Pantlind Hotel and Civic Auditorium). R. H. Goring, executive secretary, c/o Michigan Bell Telephone Company, Detroit 26, Mich.

Apr. 26-28, Cleveland

Twenty-fifth All Ohio Safety Congress and Exhibit (Hotel Cleveland and Hotel Hollenden). Headquarters at Hotel Cleveland. A. W. Moon, congress manager, c/o Division of Safety and Hygiene, Industrial Commission of Ohio, Columbus 15, Ohio.

May 2-4, Allentown, Bethlehem, Easton, Pa.

Twenty-eighth Annual Eastern Pennsylvania Safety Conference. Harold A. Seward, secretary-treasurer, Lehigh Valley Safety Council, 602 E. Third St., Bethlehem, Pa.

May 16-18, Syracuse

Central New York Safety Conference & Exposition. Newell C. Townsend, administrative secretary, Safety Division, Syracuse Chamber of Commerce, 351 S. Warren St., Syracuse 2, N. Y.

May 18-20, Winston-Salem, N. C.

Twenty-fifth Annual North Carolina Safety Conference (Robert E. Lee Hotel). H. S. Baucom, safety director, North Carolina Industrial Commission, Raleigh, North Carolina.

June 2-4, Richmond, Va.

Virginia Safety Association, Annual Meeting (Jefferson Hotel). William M. Myers, executive secretary, Virginia Safety Association, Room 302, 1103 E. Main St., Richmond 19, Va.

June 7-8, Hartford, Conn.

Tenth Annual Conference of the Connecticut Safety Society (Statler Hotel). William G. Willse, manager, National of Hartford Group, 1000 Asylum Avenue, Hartford 15, Conn.

Sept. 15-16, York Harbor, Me.

Twenty-eighth Annual Maine State Safety Conference (Marshall House). Arthur F. Minchin, secretary, Department of Labor of Industry, State House, Augusta, Me.



Oct. 17-21, Chicago

Forty-third National Safety Congress and Exposition. (Conrad Hilton Hotel). R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.



Above: #4310, brown moccasin-style slip-on, with leather-lined steel toe box. Springy, oil-resisting Nitrocrepe sole and heel.

Below: #1302, black U-wing oxford with leather-lined steel toe box. Leather sole and rubber heel. (Also in brown—#4302.)



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Air Pollution Can Be Forecast

AIR POLLUTION FORECASTS, based on meteorological data, can be made in the same way as weather forecasts, according to a research conducted in the city of Cleveland during the past three years.

Results and evaluation of the research to date were presented at the annual meeting of the American Society of Mechanical Engineers in New York, November 29, by H. J. Scott, Commissioner of Air Pollution Control, City of Cleveland.

The greatest single influence on the concentration of sulfur dioxide, which was measured to determine air pollution, was wind direction, said Mr. Scott. Concentration of sulfur dioxide, it was found, generally increased down wind and decreased up wind.

A second factor was temperature. Results in Cleveland showed that concentration of sulfur dioxide rose as the temperature dropped, and vice versa.

"The time of the day or year will have a bearing on the amount of sulfur dioxide to be found in the atmosphere," Mr. Scott said.

A third factor was inversion, which in meteorology denotes an increase, instead of the usual decrease, in temperature with increase in height. According to the Cleveland survey, when inversion exists, the concentration of sulfur dioxide will be higher than normal down wind. This pointed to the possibility of making forecasts of the amount of sulfur dioxide based on these three factors.

On the other hand, wind velocity, precipitation, low clouds, relative humidity, and fog had no apparent effect on the concentration of sulfur dioxide.

Mr. Scott outlined procedures for making forecasts of air pollution, but pointed out that the analysis and procedures presented were not intended to be conclusive.

The program to study air pollution in relation to weather was initiated in Cleveland in 1949. The plan called for the establishment of meteorological and air

pollution sampling stations in the industrial valley of the Cuyahoga River, and meteorological stations in several outlying areas. The necessary equipment for these stations was largely financed by Cleveland industries. The United States Weather Bureau participated in the meteorological phase of the program.

The first integrated sampling period began in November 1951. In July 1952 an automatic air sampler and an automatic dust-spot sampler were introduced, making possible continuous and automatic sampling. Accumulating data was selected, tabulated, and totaled on IBM machines.

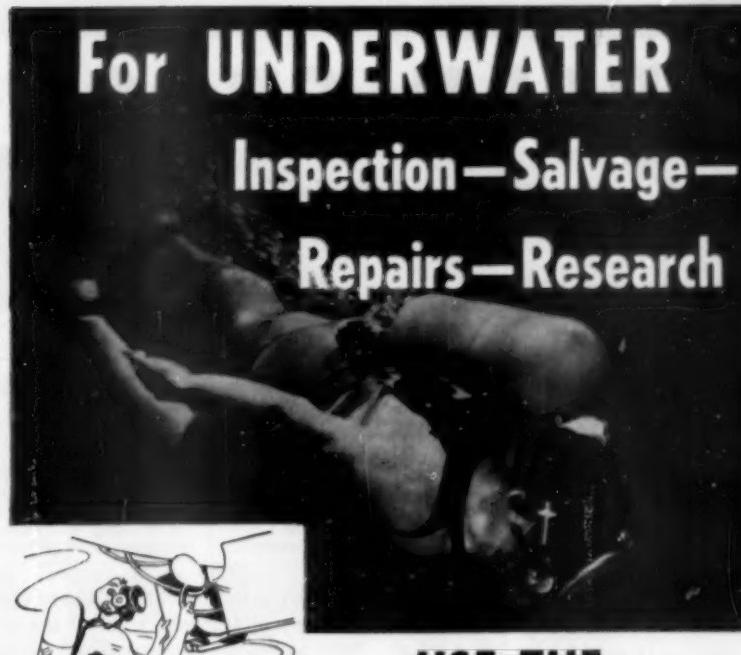
It was found that the annual mean concentration of air pollution, expressed in terms of sulfur dioxide, in the Cleveland industrial area is 0.166 ppm. This varies from 0.265 ppm in winter to 0.109 ppm in summer. Average concentration is less than 0.200 ppm in 84 out of 100 days.

1000 Day Safety Club Gets Three New Members

The Thousand Day Safety Club for the Lime Industry—now in its 17th year—was enlarged recently by three new members. As a result of having completed 1000 days or more of continuous operation without a lost time accident, three lime plants were presented Certificates of Achievement in Safety by the National Lime Association.

Recipients of the special safety certificates were the Springfield, Mo. plant of Ash Grove Lime & Portland Cement Company and the Luckey, Ohio, plant of National Gypsum Company who have worked, respectively, 1683 and 1537 days, and the Knoxville lime plant of The Standard Lime and Stone Company with 1592 safe days.

The Thousand Day Safety Club for the lime industry is open to all commercial lime plants enrolled in the industry-wide safety competition sponsored annually by the National Lime Association. This activity is conducted in cooperation with the U. S. Bureau of Mines.



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With proper instruction almost any swimmer can efficiently use the HYDRO-PAK. Its full-face mask permits easy, natural breathing through nose or mouth and enables workers to converse — yes, underwater! The famous Scott Demand Regulator automatically supplies all the air needed in any position and adjusts for pressure changes so that the diver is perfectly comfortable at all working depths. Outstanding safety features include a special reserve air supply to protect the user.

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GREEN CROSS NEWS



Activities of Local Safety Councils and Chapters

By TOM A. BURKE

The Big Noise in Industry

In an effort to ascertain more information on the relationship between noise and accident occurrence, the Los Angeles Chapter, NSC, and cooperating groups held the First Annual Noise Symposium at the Institute of Aeronautical Sciences, December 2-3. A capacity audience of interested professional people attended and participated. Acoustical engineers, physicists, clinic and industrial physicians, safety engineers, compensation attorneys, insurance executives, government accident experts and representatives from top management in industry were present.

Topics and speakers included: "What Is Noise?", R. W. Young, Ph.D., U. S. Navy Electronics Laboratory; "Effects of Noise on Man," Aram Glorig, M.D., Chairman; "Problems Facing Industry," C. L. Parham, Employers Mutual of Wausau; and "Methods of Noise Control," M. J. Naughten, Kaiser Steel Corp. Dr. Vern O. Knudsen, dean of the Graduate Division, UCLA, was the speaker at the dinner.

"Safety Swap Box"

In its industrial publication, *Safety Exchange*, the Eastbay Chapter, NSC, (Oakland) features a full page captioned "Safety Swap Box." The editor invites Eastbay members to send in "gimmicks, ideas, contests, techniques, stunts, equipment suggestions and special programs" that might appeal to other members as being new or novel.

In the second issue of the publication are two interesting contributions, the first, an effective "clean-up" stunt of International

Harvester, Emeryville Works; the other, a plan followed at Rheem Manufacturing Company, Richmond, to focus attention on the maintenance machinist while he is making repairs. The "Swap Box" is an excellent feature that eventually will be most helpful to Eastbay's industrial membership. A form is sent out to each member inviting "Swap Box" suggestions.

What the Worker Expects From Supervision

Miles Dobson, director of training and consultation, National Foremen's Institute, Inc., New London, Conn., switched his usual supervisory role and talked as a worker rather than a boss, at the 14th Annual Foremen's Safety Institute, sponsored by the Industrial Safety Committee of the Safety Council of the Fort Wayne Chamber of Commerce. A buffet dinner preceded the evening's program and was attended by several hundred persons, mostly from the supervisory level.

Dobson's talk, "What the Worker Expects from You—His Supervisor," was a frank and enlightening picture of the plant supervisor as seen through the eyes of the worker. "Safety Ace" award presentations were made to a group of foremen, "who have tried most successfully to prevent accidents in Fort Wayne industry during 1954." Paul M. Burns, chairman of the Institute Committee, presided.

Young Editors in Cincinnati

The Cincinnati Post recently published a Junior Safety Council edition, a fine public service gesture in the form of a four-

page tabloid newspaper, profusely illustrated with halftone cuts, cartoons and well written news articles recording the work of the Juniors in safety throughout the area. Features included timely stories on Christmas holiday home hazards, youth's part in the Civil Defense program, the responsibility of parents for home safety training and use of different types of fire extinguishers.

The edition was entirely the work of the youngsters, some 20 contributing editors helping in turning out a live, newsy publication. The Greater Cincinnati Safety Council assisted in the preliminary planning.

Idaho Industrial Conferences

Two industrial safety conferences were held in Idaho in late Fall. The Northern Idaho Industrial and Public Safety Conferences sponsored by the Idaho Chapter, NSC, and cooperating groups, was held at the Desert Hotel, Coeur d'Alene. The other was the Logging and Sawmill Safety Conference, sponsored by the Caldwell Lumber Company and the Black Insurance Agency at Horseshoe Bend. Manager Bob Hankey of the Idaho Chapter reports an encouraging growth in industrial memberships during recent weeks.

Patricia Priest is Keynoter

Miss Patricia Priest, popular daughter of Mrs. Ivy Baker Priest, Treasurer of the United States, was the keynote speaker at the Delaware Youth Conference at Dover, November 6. The state-wide gathering of teen-agers was sponsored by the Delaware Safety

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May your pleasures be many, may your burdens be small...
 That's the Holiday wish to you, from us all.



WALTER G. LEGGE New York	Merry Christmas	C. V. STARRANTINO New York		H. J. HEITMAN Peekskill, N.Y.		E. WHILARD MERRITT New York
CHALMER D. CLOSE Chicago	ROBERT E. CONNERY New York	KENNETH CROTTY Syracuse	HAL C. FRAZIER Houston	J. PAUL GLENN Los Angeles	HOWARD J. GRAHAM Grand Rapids	THOMAS A. GUINN Atlanta
J. EDWARD HEATH Boston	J. A. HENDERSON Philadelphia				JOHN E. HENNESSY Chicago	HAROLD R. JOHNSON Green Bay, Wis.
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WARREN MERTZ New York		MALCOLM H. MURRAY Pittsburgh		MILTON M. PATCH Miami		EDWARD J. RABBITT Westfield
LORING I. REINHARD Basking Ridge, N.J.	ALBERT J. STEINER Detroit	GALE H. TIEDEMAN San Francisco	WILLIAM A. TROY, Jr. New York	JAMES R. WORTHINGTON Fresno	J. W. TURNER Toronto	THE LEGGE SYSTEM of Safety Floor Maintenance



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This progressive line of steel toes offer your workers not only up-to-the-minute styling but added safety factors as well.

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National Safety News, January, 1955

INDUSTRIAL HEALTH



Abstracts of current literature
on Industrial Hygiene, Medicine, and Nursing

BY F. A. VAN ATTA
Industrial Department, NSC

Pneumoconiosis

Infective Pneumoconiosis I. "The Influence of Dead Tubercle Bacilli (BCG) on the Dust Lesions Produced by Anthracites, Coal Mine Dust, and Kaolin in the Lungs of Rats and Guinea Pigs," by Daphne Attuygalle, C. V. Harrison, E. J. King and G. P. Mohanty. The British Journal of Industrial Medicine 11:245-259 (October, 1954).

A CLOSE ASSOCIATION between silicosis and tubercular infection has long been known and it has been recognized that the tubercle bacilli proliferates readily and rapidly in the silicotic lung. It also has been known that the introduction of silica to a healed tubercular focus is apt to reactivate the tubercular disease. This is a function of the silica present, since the tuberculosis organisms do not show unusual growth in lesions produced by substances such as iron, carbon and aluminum.

In this study, heat killed tuberculosis organisms (BCG vaccine) were injected into rats and guinea pigs together with various types of mine dust and the animals were periodically killed and the lesions studied for periods up to 500 days for the rats and up to 365 days for the guinea pigs.

In spite of the fact that guinea pigs are known to be considerably more susceptible to tuberculosis than are rats, the lesions produced in the two species were similar.

The vaccine alone produced mild lung lesions which appeared after 30 days and persisted throughout the experiments although the lesions were regressing toward the end of the experiment.

Anthracite coal mine dust did not produce any fibrosis by itself. Mixed with the BCG vaccine, it

produced a definite fibrosis which reached its maximum in rats after a year and in guinea pigs after 240 days and thereafter the lesions were partly absorbed.

The reaction with kaolin and BCG was more marked in rats than it was in guinea pigs. The maximum fibrosis was reached after 180 days and the lesions diminished after that period.

Nutrition in Industry

Nutritional Status of Industrial Workers. I. Dietary, Blood and Physical Findings. By M. J. Babcock, Helen N. Church, and Lorraine O. Gates. The Millbank Memorial Fund Quarterly 32: 322-342 (October 1954).

INFORMATION in this report was gathered during a period from December 1948 to November 1950, inclusive, on 610 men employed in four chemical and pharmaceutical plants in Central New Jersey. They were recruited for the study as they reported to the plant dispensaries for routine physical examinations.

The study included a record of food intake, timed by a 30-minute interview with each subject by a trained nutritionist, a seven day record of actual food consumption kept by each subject (this was completed by 318 of the individuals) an analysis of the blood for hemoglobin and of the serum for carotene, vitamin A, and ascorbic acid, and a physical inspection by a physician for signs of nutritional deficiencies.

Supplementary nutrients taken in tablets or pills were not included in the calculation of the dietary data but were tabulated separately if the quantity consumed in the supplement was more than 20 per cent of the recommended daily allowance for

any of the five vitamins.

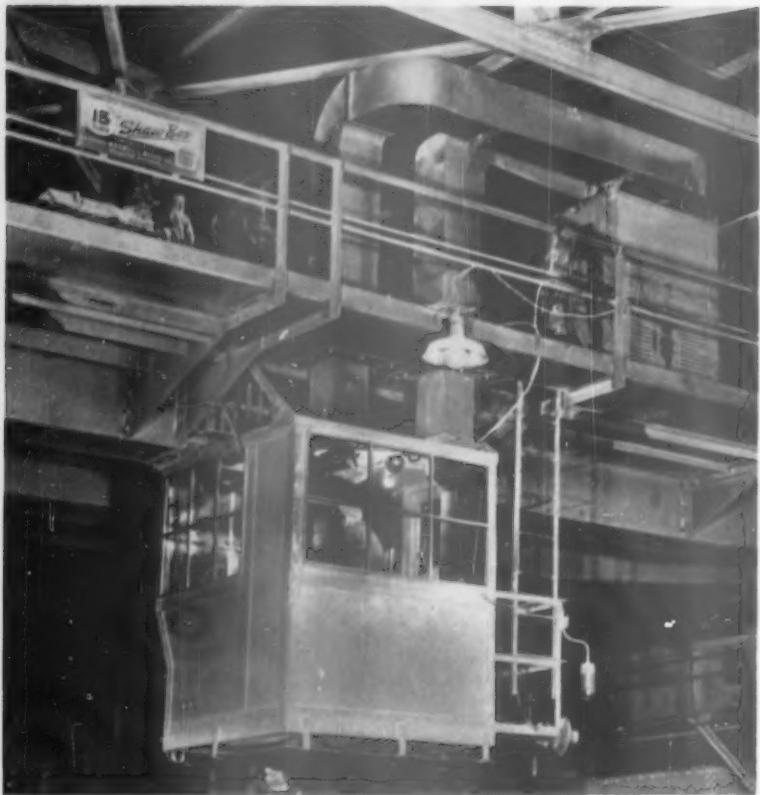
The sample studied was all men and contained a very large proportion from 20 to 40 years of age. The incomes and educational levels were distributed over a very wide range. The religious affiliation was approximately equally divided between Catholic and Protestant and the food habits of one-third approximately were influenced by a Slavic background. Smaller fractions were influenced by Negro, Italian and German customs.

The estimates of dietary intakes obtained from the interview were considerably higher than those obtained from the actual record of consumption. From the evidence available, the investigators feel that there were some omissions in the seven day record and some over-estimates in the histories, and the actual values fall somewhere between the two estimates. For the men who both kept the record and gave interviews the errors were small except for estimates of calcium, phosphorus, thiamine and riboflavin.

The dietary, blood, and physical findings were generally in agreement in showing that the nutritional status was below optimum for 20 per cent to 30 per cent of the subjects in most of the nutrients studied. When the amount of each of the five vitamins taken was summarized by giving a score of three to a high quantity, two to a moderate quantity and one to a low quantity and these were averaged it was found that one-fourth of the subjects had less than the optimum amount of vitamins over-all.

It should be noted that these
—To page 79

Air Conditioners Make Crane Cabs Tolerable



The glass enclosed cab, located in the center of the crane bridge span, is connected to the air conditioning unit above by insulated duct work.

THE first installation of cab air conditioning equipment on one of its soaking pit cranes in 1948 enabled a large integrated steel tube mill to cut crane operating labor cost in half and ended the company's long search to find protection against fatigue and heat exhaustion associated with such steel mill jobs. Now, with a crane cab conditioner mounted on each of the five cranes, operators are able to work a complete shift without relief. Since they can remain in the cab continuously, operators are available for instant call and there is no down time waiting for them to climb up to the cab for the next job.

On the first soaking pit crane to be equipped with an air conditioner, the operating cab is located in the center of the traveling bridge so that the operator has an unrestricted view into any of

the soaking pits below. Temperature in this overhead area always ranges from 140 to 160 F, but there are times when the cab is directly over an opened pit. When this occurs, the cab, being only twenty feet above the opening, is subjected to the fumes and direct radiation from the 2,300 degree inferno.

Conditions such as these were too much for human endurance, and it was necessary for regular and relief operators to rotate about every 30 minutes. On occasion, an operator would collapse and have to be removed to the first aid station. This is a difficult and dangerous operation because of limited access to the cab, and the fact that the men performing the rescue might also be overcome by the heat.

With the conditioning unit, the air supply for the crane cab first

passes through filters to remove dirt and dust and activated carbon canisters to remove odors and fumes, and is then cooled to a comfortable temperature of 75 to 82 degrees before entering the cab. Air ducts between cabs and conditioners are insulated. About 25 per cent of the air handled is make-up for cab ventilation. Electric strip heaters, installed in the main air chamber, are available for use in winter when needed.

Experience with the first conditioning unit proved that its installation cost was returned in less than a year, and steps were taken to equip the remaining soaking pit, ladle handling and furnace serving cranes in the melting shops with crane cab conditioners. During a recent expansion program, two new electric furnaces were installed together with the necessary cranes to serve them. These also were fitted with crane cab conditioners.

A special problem was encountered with the 75-ton crane used to charge the new furnaces. Headway over these large units is low, and fumes and dust given off by them are dense and irritating. For this reason, it was necessary to install a special bag filter unit. This air cleaner was connected ahead of the cab conditioner's regular air filters to clean and remove the heavy dust load from the make-up air supply. These bags can be cleaned by merely closing the make-up damper temporarily. The conditioning unit need not be shut down and the regular filters are free to take care of the recirculated air.

The cost of the initial crane cab conditioner was more than justified by the dollar savings in operating cost without considering the contribution to health and safety of the operators. Improved employee relations is another important factor. Regardless of conditions above the soaking pits and furnaces, there no longer is any need to maintain a constant watch over the crane operators or standby relief men to guard against operator collapse in hot weather. Five cranes are now equipped with Dravo Model C-5 crane cab conditioners.



MEET "FRAGILE-FOOT" FERGUSON



Too bad he didn't know about neoprene soles. It's not so bad downhill, but at the bottom Ferguson starts wishing *somebody* had told him about shoes with neoprene soles. For the really tough jobs, durable neoprene soles are practically a must for long wear and protection. Neoprene resists attack from hot acids, greases, oils and solvents . . . can take severe scuffing and flexing without cracking. Soles of neoprene won't soften or lose shape despite continued exposure to heat, and their resilience and flexibility help assure foot comfort —minimize dangerous fatigue.

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- **ABRASION RESISTANCE**—neoprene is strong and tough!
- **HEAT RESISTANCE**—neoprene won't soften
- **RESISTANCE TO SUNLIGHT, WEATHERING, AND OXIDATION**—neoprene won't soften or crack

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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Ability or Attitude?

By GAYL O. KELLAR

With wrong attitudes, even a genius can get in trouble

ABILITY is a wonderful thing to have—and so is a million dollars, they tell me.

There isn't a human being alive without ability of some sort. Some just have more than others.

Each of you has at least one particular skill—which you may or may not be inclined to brag about—that sets you apart from your neighbor or brother. Our skills or abilities, lead in different directions, which is a mighty good thing; otherwise we would all wind up as the best mechanic, poker player, swimmer, cook, motor vehicle driver, jockey, or you name it—in the whole wide world.

Haven't you often wondered why you have your special ability or skill and your neighbor can't seem to get the hang of it? Maybe your friend can make a piano do everything but cook, but when it comes to your specialty—say building a radio—he doesn't know which side is up.

We say every man to his own tastes and we should be very thankful that people are blessed with such a variety of abilities. This accounts for our modern day miracles and the advantages we enjoy over our ancestors, who some say hung by their tails. I have a feeling that also took a bit of ability and that some probably did it much better than others.

Now where does all this ability come from? Have you ever been able to trick a cat into landing on anything but its feet? Or quickly stop a baby's crying after sticking it with a pin? These are natural

instincts, stimulated from within. It is something with which the animal or child is born. In other words, it just comes natural, but nevertheless it is an ability.

The animals that perform in the circus do what they are trained to do—sometimes. The child goes to school and learns to read and write. Here you have abilities developed through training and practice.

So it would seem that you brought some of your ability with you when you first arrived and acquired the rest of it through training and practice.

There's a very old saying that "all men are born equal," but the fact remains that as time goes on, ability is one of the things that separates the men from the boys.

Now this thing called ability, which is so wonderful to have, can get you into plenty of trouble—depending upon another attribute called "attitude," which originates and is contained within that substance enclosed in the skull, mostly above the ears. It is a state of mind and can be either good, bad or indifferent. How it got there isn't important right now, but how it comes out reveals your character as nothing else will.

Attitudes Can Sink You

And another thing, attitude can get you into a jam, from which all the ability this side of Halifax can't get you out.

Suppose you are the world's best automobile driver, or even second best; believe me, that leaves you with ability to spare. Now let's further suppose that your attitude demands that you always be up front leading the parade. You're passing a car in an intersection because the driver ahead was slow and timid. All of a sudden he makes a jack rabbit

left hand turn and where are you? Sure, he did a stupid thing—his ability was lousy—but did your super ability avoid a collision? Yes, you were skillful enough to dodge him, but there was an approaching car not yet in the clear and you got him.

Or let's make you the top machinist in your shop as far as ability goes, but your attitude prevents you from using eye protection against flying particles. A flying piece of steel from a grinding operation pierces your eye and you lose half your vision.

Mixed-up Minds

Do you agree that something more than ability is required to keep you out of trouble? What we're trying to say is that attitudes, which get all mixed up because of haste, hate, temper, recklessness, stubbornness, worry, hunger, prosperity and so on, are more important than you may realize.

A wise man thinks twice before trying to squeeze by on ability alone. He makes allowances to compensate for the tricks his attitude may play upon him. Some people only have to count up to ten. They are the lucky ones.

If you're having trouble with your attitude—and don't we all, now and then—try exercising a little more courtesy and consideration for your family and fellow man.

You have often heard it asked, "Why is it that he seems such a gentleman when you are a guest in his home, but when he gets in his car he acts like a maniac?" I believe the true character of a man is revealed, not by how he treats you as a guest in a crowd, but how he treats you or his family, when there is no one around

—To page 76

"The Tropics seems to have an especially adverse effect on attitude," writes GAYL O. KELLAR, safety director for the Panama Canal Company. "If we ever discover the secret to controlled attitudes, our fortune will be made." A feature story of the Panama Canal Company's safety program appeared in the October issue.

Here's why Ansul extinguishers give you faster, more dependable fire protection!



WEATHER-TIGHT NOZZLES made of aluminum and stainless steel, can't rust. Neoprene cap and oil-impregnated washers keep out moisture.



PUNCTURE PIN. In this aluminum housing a stainless steel pin pierces the gas cylinder that supplies the propellant power for the dry chemical.



READY for instant action under the most severe exposure conditions.



PATENTED NOZZLES. Straight or fan stream, the hazard determines which is installed. An Ansul exclusive for more effective fire control.



FIELD RECHARGING. Just 4 minutes after a fire is extinguished your Ansul unit can be recharged, ready for action. No special tools are needed.

The pictures on this page tell half a story. The complete story includes Ansul's facilities for training your personnel in the science of fire control and prevention. Experience has taught us that *complete* fire protection demands both—fast, dependable equipment and trained personnel to man that equipment. Ansul can provide both. Get in touch with your local Ansul man, he has the complete story about *complete* fire protection.

Write Ansul for your copy of *New Fire Equipment Catalog*.



ANSUL

Get in touch with your local Ansul man through the "yellow pages," or write direct to ANSUL CHEMICAL COMPANY, Fire Equipment Division, Dept. F-31, Marinette, Wisconsin.



PERSONALS



ASA Elects Officers

EDWARD T. GUSHÉE, vice president, Detroit Edison Co., was elected president of the American Standards Association, at the 36th Annual Meeting of the Association, held in conjunction with the Fifth National Conference on Standards, November 15-17, in New York.

Mr. Gushée, who has been vice-president of ASA since 1951, succeeds as president, Roger E. Gay, president, The Bristol Brass Corp. Mr. Gushée began his career with Detroit Edison in 1920.

ARTHUR S. JOHNSON, vice president, American Mutual Liability Insurance Company, Boston, was elected chairman of the Standards Council, one of the two industry-controlled governing bodies of the ASA. T. E. Veltfort, manager, Copper and Brass Research Association, was elected vice chairman.

J. L. CRANWELL, vice president, Pennsylvania Railroad, was elected vice president of ASA.

The following directors were elected: W. H. Aubrey, vice-president, Frick Company, representing the Air-Conditioning and Refrigeration Institute; V. de P. Goubeau, vice president, RCA Victor Div., Radio Corp. of America, representing the National Association of Purchasing Agents; Leo V. Bodine, executive vice-president, National Lumber Manufacturers Association, representing the Association; Irwin D. Wolf, vice-president and general manager, Kaufmann Department Stores, representing the National Retail Dry Goods Association; Robert E. Wilkin, vice-president, Hooker Electrochemical Company, representing The Synthetic Organic Chemical Manufacturers Association of the U.S.; Colonel

W. T. Chevalier, executive vice-president, McGraw-Hill Publishing Company, member-at-large.

JOSEPH B. NIGHAN has been appointed director of safety and security at the Camera Works plant of the Eastman Kodak Company, Rochester, N. Y. He has been in safety work since he joined the Kodak company in 1939 as a safety inspector.

In 1948 Mr. Nighan was appointed assistant department head and three years later became assistant superintendent of safety. Before joining the Kodak organization, he served for six years as employment manager of the Pfaudler Company, Rochester. He is chairman of the safety committee of the Rochester Industrial Management Council and vice-chairman of the Genesee Valley Chapter of the American Society of Safety Engineers.

Mr. Nighan succeeds EARLE D. CARSON, who has retired after 50 years of company service. He has been concerned with safety at Camera Works for the past 27 years.

Mr. Carson is a recognized authority on safety and security laws as well as safety regulations, devices and methods. He has been a frequent lecturer on such topics before school, college, and industrial groups and safety conventions.

He was also responsible for sanitation and fire protection as well as plant security, the latter

of major importance during and since World War II. He acted in an advisory capacity on safety matters at the Navy Ordnance Division.

He entered safety work in 1927 when he became safety supervisor of the safety and sanitation department. He became department head in 1948 and became director of safety in 1951.

He is a member and past chairman of the industrial safety group of the Industrial Management Council, the National Fire Protection Association, American Society of Safety Engineers and the Rochester Chamber of Commerce. He has served on many civic fund-raising campaigns.

BRUCE CAMPBELL, formerly director of community highway safety, has been named manager, and Bert Harmon, formerly safety director, has been promoted to director of activities and information of the Massachusetts Safety Council.

FRANK Y. SPEIGHT has joined the staff of the American Society for Testing Materials as assistant technical secretary. He will be located at ASTM Headquarters, 1916 Race Street, Philadelphia 3. For the past eight years, he has been on the staff of the National Academy of Sciences, National Research Council, Advisory Board on Quartermaster Research and Development as Assistant to the Executive Director. Previously he was engaged in plastics development with the American Cyanamid Company.

His duties with ASTM will be technical and editorial. Among his early assignments are the staff contacts with Committees D-9 on Electrical Insulating Materials and D-20 on Plastics.

MARCH OF DIMES



JANUARY 3-31

After 36 years with Colorado Fuel & Iron Company, Pueblo, Colo., A. H. ZEILINGER has retired as superintendent of safety. He has set up an office for safety consultation work at 622 Jackson, Pueblo.



ALL TYPES...ANY CLASS FIRE!

Since different fire hazards require different types of fire extinguishers, PYRENE—C-O-TWO manufactures all types . . . the finest and most complete line on the market today.

When doing business with PYRENE—C-O-TWO, you receive unbiased advice on what is best for your particular fire hazards, whether class A, B or C.

Also, there is a well-rounded sales engineering organization having nation-wide representation to render top quality service wherever you're located.

Don't take unnecessary chances . . . the extensive fire protection experience of PYRENE—C-O-TWO over the years is at your disposal without obligation. Get complete facts now!

P Y R E N E — C - O - T W O
NEWARK 1 • NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada

COMPLETE FIRE PROTECTION
portable fire extinguishers . . . built-in fire detecting and fire extinguishing systems

CARBON DIOXIDE • DRY CHEMICAL • VAPORIZING LIQUID • SODA-ACID • WATER • CHEMICAL FOAM • AIR FOAM

Iron Age presents the new Soft-ee SAFETY SHOE

Armored for Safety—Impregnated for Long Wear



This Comfortable, All Purpose,
Plain Toe Work Shoe Repels
Water, Oils and Acids



No. 679

Sizes 6-13

Widths C-D-E-EEE

Here's another "first" in the long line of Iron Age safety shoe values. It's crammed full of quality features to assure the longest wear, the most comfort. Consider the upper leather. It's Resitan, used here for the first time in any safety shoe. Resitan is a soft, mellow tannage impregnated with a wondrous new plastic resinous material that is highly resistant to acids and water. After two years of rugged wear tests, these shoes remained just as soft as when new.

Other "extras" include nationally advertised Biltrite green plug Neoprene outsoles, Pacifate linings, Dacron stitching and Barbour storm welts.

One look will tell you the new Iron Age "Soft-ee" belongs in your stock room. Ask your Iron Age representative to demonstrate or write us.



Iron Age DIVISION

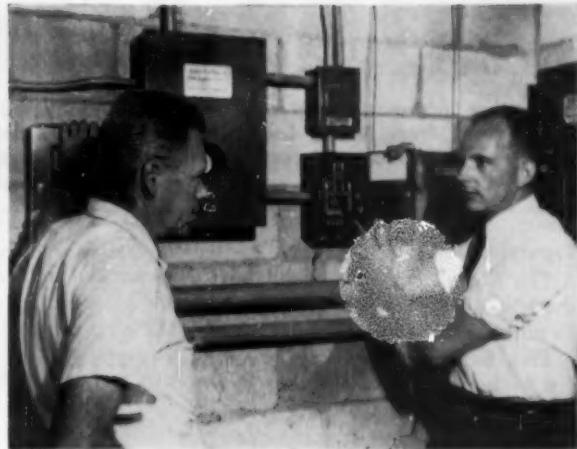
H. Childs & Co., Inc.

1205 Madison Ave., Pittsburgh 12, Pa.

TAGGED TO BE TOPS These Tags Tell The Quality Story Of This Great New Value



Iron Age Safety Shoes



Operation of detection-alarm system is explained to R. P. Strickland, track superintendent, by a Kidde representative. If fire breaks out, increasing temperature causes expansion of air in copper tubing, forcing diaphragms together and closing circuit which sounds alarm.

One side of Jamaica Track's new stable where fire hazards have been reduced to a minimum. It is of steel frame, concrete block and concrete construction, completely water sprinklered and equipped with fire detection-alarm system. Only wood in the building is oak flooring treated to be fire-resistant.

Fire-Resistant Stable Houses Race Horses

Protection of animals against fire is something that appeals strongly to all humane instincts. And because of their economic value protection has an added importance. A race track, for example, has a large investment in stables and horses which is in constant danger due to storage of flammable bedding and feed. The danger is aggravated because horses cannot leave the scene of the fire voluntarily and often resist attempts to rescue them.

The Jamaica race track, on Long Island, suffered heavy losses in 1952 when a 20-stall barn and eight horses were destroyed. This fire sparked plans for construction of a fire-resistant stable. The project was turned over to Stone & Webster who designed what is probably the most fire-safe stable in the United States. Construction was completed last spring.

Valued at \$80,000, the 22-stall stable measures 136 by 47 feet and provides limited loft storage space for feed and bedding. To

minimize flammable material, it is of steel frame, concrete block, and concrete construction. The only wood used is oak, treated to be fire resistant, for stall flooring and siding. Stall doors are steel covered and the entire barn is automatic water-sprinklered.

The track also wanted a device installed in the stable which would give an immediate warning of a fire. Walter Kidde & Company, Inc., of Belleville, N. J., furnished a fire detection system for the building.

It comprises two strands of .08 inch diameter copper tubing mounted on ceilings throughout the barn. Each strand covers half the barn and both ends of each strand terminate at a detector.

If fire breaks out, the increasing temperature causes the air in the tube to expand. This expanded air moving in opposite directions enters the detector and acts on two opposing diaphragms. This pressure forces them together and closes an electrical cir-

cuit which sounds an alarm.

Incorporated in the detector's design are features which eliminate the possibility of false alarms from normal temperature changes and even sudden, short surges of heat. Such air pressure increases are compensated by two hollow, closed cylinders which cushion any sudden or momentary expansion of air in the circuit. These cylinders pass the air up through breathers which release it to the outside atmosphere at a predetermined rate. Only the excessive rate of temperature rise will trigger the alarm.

The alarm sounds on a gong at the barn and also causes two red lights on the stable's roof to light. Simultaneously the warning is flashed to the track's main gate, which is manned 24 hours a day, and the barn in trouble is designated on a panel. At the trouble signal a municipal fire alarm box at the main gate is pulled to alert the New York City Fire Department. Two companies answer a Jamaica Track alarm, and the proximity of the fire station to the track means that fire fighters can be on the scene in less than five minutes.

Safety Films

Further information on publications or films listed here may be obtained from Nancy Lou Blitzen, Film Consultant, Membership Service Bureau, National Safety Council

Supervisor Training

The Right Combination (35mm sound slidefilm) black & white. 15 minutes. Production date, 1954.

This film is suitable for showing to both supervisors and employees. It states that safety is a matter of cooperation and understanding between the supervisor and his workers. It helps the supervisor to know his duties and obligations to his workers, and it enables workers to understand the supervisor's problems. Done entirely in cartoon style. Source: local Zurich Insurance Company agent. If unable to locate him, contact Zurich Insurance Companies, 135 S. La Salle Street, Chicago 3, Ill. Availability Basis: purchase, loan.

Public Utility

The Lifeline of the Lineman (16mm sound motion or 35mm sound slidefilm) black & white. 20 minutes. Production date, 1954.

Produced under the supervision of the Accident Prevention Committee of Edison Electric Institute, the film teaches new linemen the importance of proper equipment, proper climbing techniques and finally the proper care of their equipment. Use of safety belts and climbing gear and their proper care and maintenance shown in detail. Source: Buckingham Manufacturing Company, Inc., 7-9 Travis Avenue, Binghamton, N. Y. Availability Basis: purchase, loan.

Marine Operations

Sentries of the Sea Lanes (16mm sound motion) color. 28 minutes. Production date, 1954. TV/o.k.

A United States Coast Guard film dedicated to the officers and men who maintain the 22,000 buoys that mark our coastal and inland waterways. Picturing the specific duties of these men, the film also shows the necessity for adherence to the strictest safety rules and practices used in these

operations. Subjects covered are removal and replacement of buoys, welding and cutting operations on land, storage and maintenance work. Primarily a Coast Guard indoctrination film for Coast Guard buoy tender operations but it could be of interest to public and commercial boat owners. Sources and Availability Basis: Chief, Public Information Division, United States Coast Guard, Washington 25, D. C., for loan prints. United World Films, Inc., 1445 Park Avenue, New York 29, N. Y., for purchase prints.

Here are two corrections for source listings in the June, 1954, issue of the *National Directory of Safety Films* which was included in the June issue of *NATIONAL SAFETY NEWS* and is also available as a separate edition.

Source number 40 has changed its address. It is now the Hamilton Safety Council, 6 Court Street, Anthony Wayne Hotel, Hamilton, Ohio. Source number 96, the National Film Board of Canada, does not distribute the film *We're on the Spot*. The Board was listed, erroneously, as the purchase and loan source for this film.

The 1954 issue of the *National Directory of Safety Films* is available from the Council for purchase. Also available are two quarterly Supplements for August and December. These Supplements will be sent free on request and are included in each purchased copy of the Directory. The price for a single Directory is 75c.

Prominent Guests at Presentation



Presentation of three plaques to the Kraft Mill of Fraser Companies, Limited, at Newcastle, N. B., on August 13, was attended by several prominent guests, including Hon. Hugh John Flemming, Premier of New Brunswick, Hon. A. E. Skaling, Provincial Minister of Labour, P. E. Roy, mayor of Newcastle, and Aubrey Crabtree, president of the company.

The three awards were: the National Safety Council's Award of Merit, the plaque won in the annual contest of the Pulp and Paper Section, NSC, and the plaque awarded by Harold Crabtree, chairman of the board of Fraser Companies.

Left to right in the above picture are: M. Kenny, president Local 689, International Brotherhood of Pulp, Sulphite and Paper Mill Workers; D. A. Adams, chairman, Safety committee; D. E. Honer, chairman, Mutual Interest Board; Mayor Roy; Premier Flemming; Mr. Crabtree; Hon. A. E. Skaling; Lt. Col. Wm. A. McDougall, chairman, New Brunswick Workmen's Compensation Board; R. B. Murchie, mill superintendent.

BRAND-NEW FIRE KILLER!



Leave it to Kidde to come up with a red-hot idea like this — a big, new 10-pound dry chemical extinguisher that's effective at *any* pressure from 150 to 250 pounds!

Naturally, this new Kidde 10-pounder has all the special features that make the Kidde Dry Chemical line second to none — fast action, easy handling, simple trigger operation, and extra-wide coverage that snuffs out fire in seconds. But the "wide operating range" feature is what makes the 10-pounder a real standout!

Unlike other extinguishers, which usually operate at one pressure only, the Kidde 10-pounder works through an extremely wide pressure range. Even when charged as low as 150 pounds, the Kidde 10-pounder is UL-approved for Class B and C fires. Boost the charge to 250 pounds,

and you have a fire extinguisher with an *extra* hard-hitting punch!

For fighting fires in deep-burning liquids, electrical machinery and other hard-to-get-at places, *nothing* beats a Kidde Dry Chemical Extinguisher. Good for fires in textiles, too! See to it that *you* have Kidde protection. Call Kidde today!

Kidde

The words 'Kidde', 'Lux',
'Lux O-Matic', 'Fyrs-Freez' and
the Kidde seal are trademarks of
Walter Kidde & Company, Inc.

Walter Kidde & Company, Inc.
145 Main Street, Belleville 9, N. J.

Walter Kidde & Company of Canada, Ltd., Montreal—Toronto

N. Y. State to Hold Ventilation Conference

A three-day Industrial Ventilation Conference, sponsored jointly by the New York State Labor Department's Division of Industrial Hygiene, and Rensselaer Polytechnic Institute in Troy, N. Y., will be held at the Institute on January 31, and February 1-2.

The three-day program will include lectures by personnel from the medical and chemical units of the Department's Industrial Hygiene Division, to provide a complete picture of the industrial hygiene problem.

Main emphasis, however, will be on exhaust system design. Basic engineering lectures on the subject will be given by experts of the Engineering Unit of the Division of Industrial Hygiene. Classroom problems will offer the relatively inexperienced, as well as the advanced designer, in-

creased knowledge of the science.

The text book used will be *Industrial Ventilation, A Manual of Recommended Practice*, published by the American Conference of Governmental Industrial Hygienists. The Institute fee, including the Manual and the February 1 dinner, will be \$25.00. For application blanks contact Professor A. A. K. Booth, associate chairman, Co-operative and Extension Education, Rensselaer Polytechnic Institute, Troy, N. Y.

Extremely low toxicity, negligible effect on metals, and the ability to deliver a high volume of flame-smothering vapor at all flight temperatures, are making the fluorinated compounds standard equipment on new Lockheed Super Constellations and may lead to their adoption on many commercial and military transports powered by air-cooled reciprocating engines.

Tests indicate the compounds are highly effective in quelling fire involving either flammable and explosive fuels or electrical equipment.

The new fire-fighting system, first employed by Lockheed, is a high rate discharge system (HRD) developed by the Civil Aeronautics Administration technical center at Indianapolis. The standard fire-fighting agent supplied by Lockheed on all delivered planes is Du Pont "Freon-12B2" dibromodifluoromethane.

New Fire Protection System for Airplanes

FLUORINATED hydrocarbon compounds, similar to those that act as cooling agents in refrigerators, freezers, and air-conditioning equipment, are bringing new safety, easier handling, and significant equipment-weight savings in fire-fighting equipment for use on airplanes.

Get a Safe, Sure Grip...
with HOOD ANTI-SLIP GLOVES



Model R-45

Also available as R-46, fully coated with natural rubber.

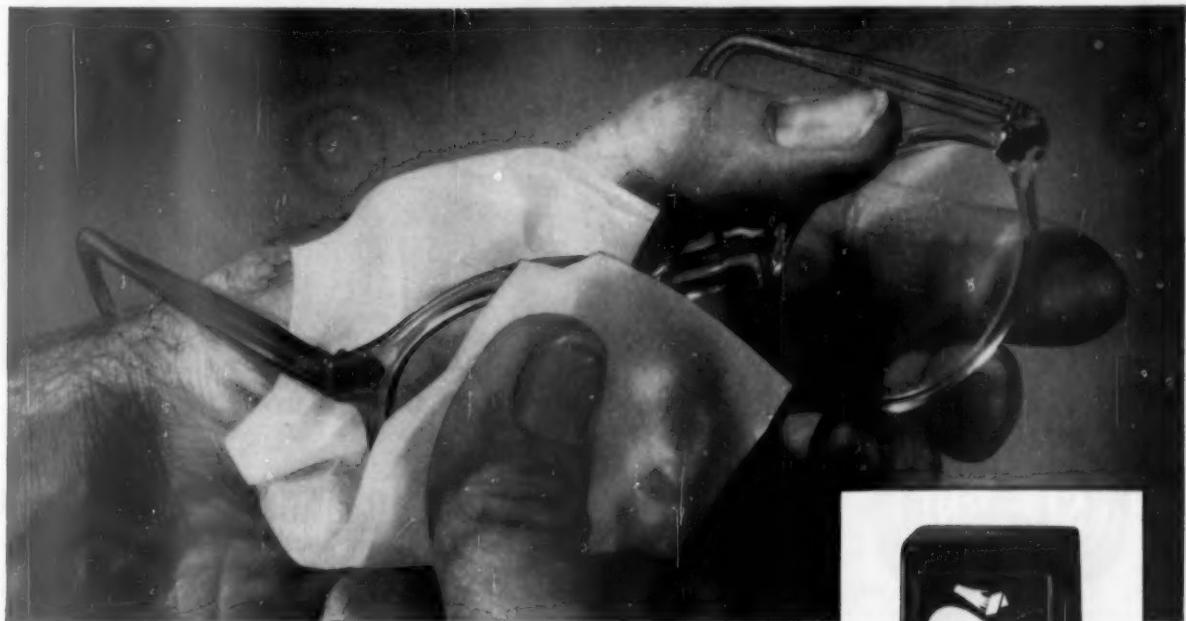
CHECK
THESE FEATURES -
Knit-wrist Style
Natural Rubber Coated
Palm with
Anti-Slip Finish
Ventilated Back
Standard Weight
Flexible — Comfortable

Hood Rubber Company makes a complete line of rubber and plastic gloves for industrial uses. Write today for illustrated catalog featuring Hood Glove Guide — "How to choose the RIGHT glove for EACH job".



HOOD RUBBER CO., WATERTOWN,
MASSACHUSETTS
A division of the B. F. Goodrich Company

keep safety glasses safe



keep them clean

Implement your Eye Safety Program by helping your employees wipe away their own strongest objection to safety glasses. Quick, easy and inexpensive to use, Sight Saver tissues contain the proper amount of silicone to give longer-lasting clarity and luster to lenses. Specified by hundreds of Safety Directors, Sight Savers are proved by world-wide distribution and repeated use by millions of people.

- Inexpensive to install and maintain
- Foolproof; eliminates waste
- No fuss, no muss, no fluids

install **SIGHT SAVERS** cleaning stations



Readily Available
from leading Safety Supply Houses

SIGHT SAVER DISPENSERS

Cat. No. 60 (Black) No. 61
(White) No. 62 (Safety Green)
\$2.50

Refill Packets (Cat. No. 65) \$1.45

SHOE SAVER

Cat. No. 81 (Pints, \$2.00, Quarts,
\$3.75, Gallons, \$12.75) Cat. No.
82 (4 ounce bottles, \$0.60)



SHOE SAVER

Durable, water repellent silicone treatment protects, preserves leather. Shoes last longer, stay more comfortable. Easy and inexpensive to apply. Improves morale, cuts overhead.

Mail Coupon Today for Distributor Listing

DOW CORNING CORPORATION, Dept. DZ-8001
Midland, Mich.

Please send me your complete listing of sources of supply for SIGHT SAVER Cleaning Stations and SHOE SAVER.

Name _____

Company _____

Address _____

City _____ State _____

FIRST IN
SILICONES

DOW CORNING
CORPORATION

MIDLAND, MICHIGAN

New! Stac-Vent

Stops Liquid Splash
Greater Safety
More Comfort

SOFT VINYL FRAME
SAFETY GOGGLE

Model 440SV

Methacrylate Lens

Model 441SV

Acetate Lens



Here's How It Works



Moist air accumulates at top inside of goggle causing inside of lens to fog.



STAC-VENT drafts off hot, moist air from inside goggle just as a chimney carries off smoke.

... a new principle in goggle ventilation

Greater safety . . . No liquid, chemical or other hazard can reach the eye. Ventilation holes are protected under the "Stac-Vent" hood located properly to eliminate lens fogging. Methacrylate or Acetate Lenses and Vinyl frame protect against all hazards: impact, chemical splash, sparks, molten metal.

Safe Ventilation . . . "Stac-Vent" provides draft ventilation at the top and center of the goggle (where warm, moist air normally accumulates). Large openings for ventilation are possible because they are safely shielded by the "hood".

PLUS ALL THESE FEATURES

Fits over all prescription glasses . . . Extra wide 6" lens and large frame fits over all prescription glasses — metal or horn-rimmed. Soft Vinyl Frame is translucent (except opaque black) for partial side vision. Front of frame protrudes to act as bumper, protecting the lens surface when thrown on table or floor.

Lenses are easily replaceable . . . no special tools or skill is required to replace lenses. Positive Lens Lock Bar is easily removed . . . new lens inserted (soft vinyl frame spreads at finger touch) . . . new Lens Lock Bar (supplied with each replacement lens) is put in place.

Optically correct, shatterproof lenses . . . Eye Savers Methacrylate and Acetate Lenses are guaranteed optically correct. Cannot cause image distortion with resultant permanent injury to the eyes. They are shatterproof — cannot splinter with impact.



See Your Authorized Eye Savers Supplier, or write direct for full information on the new "Stac-Vent" and other modern Eye Savers

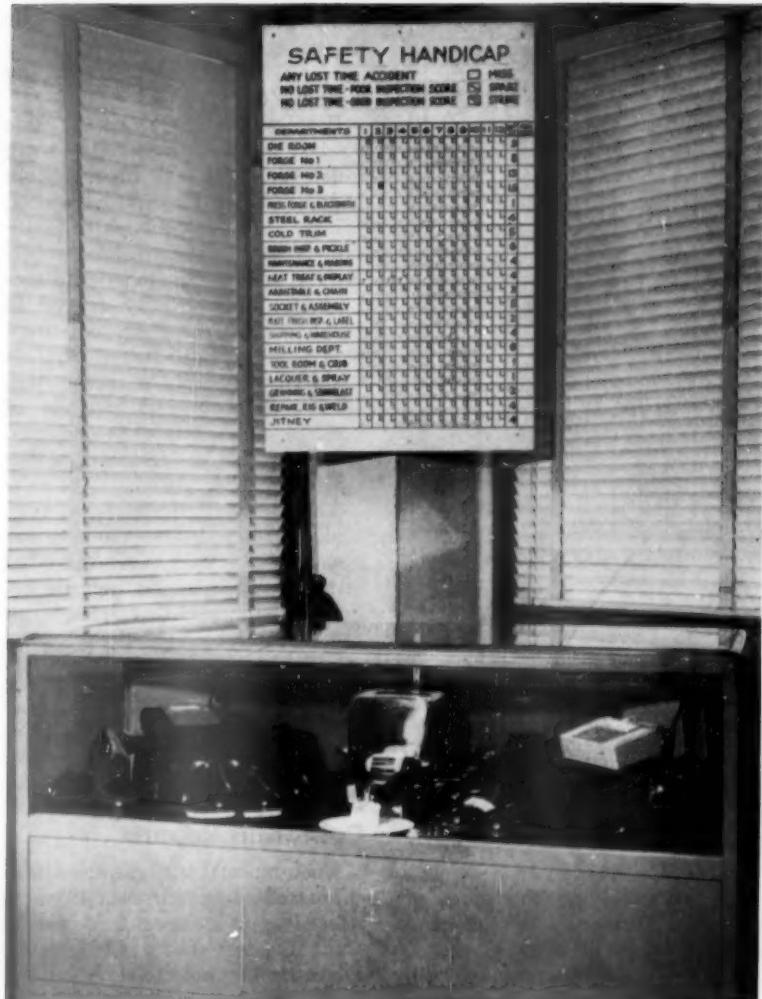
Quality Eye Protective Equipment

Made by the Leaders in Plastics



WATCHEMOKET OPTICAL CO., INC.

234 West Exchange St., PROVIDENCE 3, R. I. In Canada: Levitt-Safety Limited, Toronto 10, Montreal 26



Strikes, Spares — and Misses

By G. G. TRANK

WHEN a contest was proposed at J. H. Williams, one of the first things the foremen asked for was the establishment of some sort of handicap, so that employees of the dirtier, more hazardous departments would feel that they had an equal chance of winning. As a result of this request the Safety Department came up with the idea of a mock bowling score

system, with definite handicaps for each department, based on past accident records.

In our case we took the disabling injuries for each department over the last five years. This gave us figures with which we could compare one department with the other. Using these as a ratio we established that the most hazardous department would have a handicap of 13 points. Departments which had experienced no

G. G. TRANK is Safety Director, J. H. Williams & Co., Buffalo, N. Y.

lost time would have a handicap of only one point.

For our scoring system we followed the rules of bowling as nearly as possible. Since there are ten pins on a bowling alley we established an inspection system where each department was rated on ten points.

The workers' safety committee selected three members to make the inspection with a member of the safety department. This four-man team inspected each department and scored them on the following points:

1. Use of protective equipment. Goggles, helmets or any other personal protective equipment where required.

2. Fire hazards. Blocking fire equipment, use of flammables, promiscuous smoking, etc.

3. General Housekeeping.

4. Machine Safety. Machine guards, safety cables, warning signals or any other mechanical safety device.

5. Aisles, exits and work areas. Maintaining free main aisles and exits, arrangement of materials and work so there is always free passage of personnel or material to any station in the working area.

6. Use of vehicles. Use and maintenance of lift trucks, electric transporters, and departmental hand or push trucks.

7. Material Handling and Storage. Proper stocking and piling, overloading containers, improper containers, etc.

8. Tripping and Falling Hazards. Keeping floors free of loose material, blocks, projections, etc. Using platforms and ladders for climbing, proper use and care of ladders.

9. Hand Tools. Correct use and maintenance of tools and their storage when not in use.

10. General Personal Conduct. Horseplay, cutting corners and other deliberate chance taking, etc.

We were cautious about marking a condition against a department when its correction was not entirely controllable by the department. One example is where a maintenance order was quickly issued for repair of a machine guard that had been slightly damaged. However, the Maintenance Department had not yet made the repairs at the time of our inspection.

You will note that where a violation or unsafe condition was found, each represented a pin left

INSPECTION SCORE SHEET										
SAMPLE		DEPT. NO.	FL. BLDG.	ST. BLDG.	IND. BLDG.	STEEL BLDG.	COLD TUN.	LODGE INNS.	MANTONNEE HOTELS	WIT' TRAV.
1. PRODUCTIVE EQUIPMENT	1	2	3	3						1
2. TIME HAZARDS	1	3	1	3	1	1	1	1	1	1
3. HOUSEKEEPING	0	1	0	1	1	1	1	1	0	1
4. MACHINE SAFETY	1	1	1	1					1	1
5. AIRLINE FIFTH ETC.	1	2	2	1					1	1
6. USE OF SAFETY TOOLS	2	2	2	1	1				1	1
7. MATERIAL HANDLING	2	2	2	0					0	1
8. TRIP & FALL HAZARDS	1	1	1	1					1	1
9. TOTAL	1	1	3	1					1	1
10. PERSONAL GROOMING	1	1	0	1					1	1
POINT TOTAL	8	10	8	8					10	9
HIGH POINTS	10	10	10	10					10	9
TOTAL SCORE	20	20	18	20					30	27

M. T. = Lost Time

DATE 11/15/54

standing and detracted from the possible perfect score of ten pins.

The inspections were made each week and arranged so that there was no set route or schedule which would be an aid to anticipating when a tour of inspection would take place. Prior arrangements were made with the foremen of the three committeemen so that the safety department could take the men at any time.

Each week represented one frame of bowling and was scored accordingly. Since our contest covered a period of three months our bowling game had twelve frames.

To penalize departments having disabling injuries and reward departments which worked hardest to maintain a safe department, the system of strikes and spares was employed as follows:

A Miss—Any department having a lost time accident will score a miss. In this case the department receives only the score it earned on the inspection check list. (Example: Dept. A had a lost time accident and earned a score of 7 on the inspection. The score entered for that frame will be 7 pins.)

A Spare—Any department free of lost time accidents but receiving a score of 8 or less on the departmental inspection will score a spare. This will add an extra 10 pins to the score received on the inspection. Example: Dept. B had no lost time accidents and earned an inspection score of 8. The score entered for that frame would be 18 pins.

A Strike—Any department receiving a score of 9 or 10 on the inspection

will score a strike. In the case of a strike the department will have 20 points added to their inspection score. Example: Dept. C had no disabling injuries and earned a score of 9 on the inspection. A score of 29 will be entered for that frame.

The score of each frame (or week) stood by itself instead of following the exact bowling procedure. This prevented a department from helping the score of the prior frame by a concerted effort in the following week.

As each week's score developed, it was added to the previous week's and the totals carried just as in bowling scores. These were posted in all departments each week. Also the score was kept on a master board placed at the entrance to the plant.

Also displayed were the prizes. In the current contest every person in the first-place department receives a monogrammed lighter. Lesser prizes are won by individuals in drawings. For example, the second place department holds a drawing for the second prize, a radio in this case. Only employees of this department are eligible for the drawing. Similar drawings were held in the third to tenth place departments for the third to tenth prizes, respectively. In a previous contest a drawing was held in the first place department for a large television set.

A regular ceremony was made of the drawings. Presentation of

the prizes was made by an officer of the company who offered his personal congratulations to the winning departments.

Employee acceptance of this contest was excellent. They were quick to grasp the idea that in order to be in line for individual prizes, each had to work to maintain a high departmental score. As the scores developed the employees became very active in policing each other so that there was no relaxing of the effort. This resulted in one of the most intensive and prolonged periods of general good housekeeping and freedom from accident causes that we have experienced.

The overall result was a very high degree of interest among our nearly 1100 employees. And what is more gratifying, a definite reduction in accident frequency rate during both of the contests is resulting in an annual frequency about 20 per cent below any previous record for this plant.

Back Injuries Increase, California Reports

Occupational back injuries have increased sharply in recent years, according to a report released by Paul Scharrenberg, California Director of Industrial Relations.

The report, prepared by the Division of Labor Statistics and Research, reveals that about 22 per cent of all California workers disabled in on-the-job accidents suffer a back or hip injury. Five years ago the proportion was 18 per cent.

Nearly 28,000 California workers lost time this year because of occupational back injuries. Most of these resulted from strain or overexertion in lifting.

There are about 7 disabling back injuries per year for every 1,000 workers employed. In some industries the rate runs considerably above this average.

Among the industries with highest back injury rates are mining, trucking and warehousing, lumber, dairies, and building material dealers. A high proportion of back injuries were also reported by beverage plants, sugar refineries, grain milling plants and hospitals.



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But you can control this waste.

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(Tear out this coupon and mail it with your letterhead)

Fatigue Isn't Simple

By RAM VASWANI

Why can a man leave the job dead tired and show plenty of energy on the golf course or bowling alley? Emotional as well as physical factors are involved

EXPERIENCE in many industries indicates that the accidents increase as the day progresses and that the average rate is higher in the afternoon than that during the morning.

This increase in accident rate can be attributed to many factors, among which are monotony of work, quickening of production rate to meet schedules, artificial lighting necessary during the evening. It is generally recognized that fatigue also plays a prominent part. From the point of view of the safety engineer, therefore, methods for avoiding and reducing fatigue in muscular work are as important as the guarding of machinery and other safety measures.

While industrial engineers have in the past often been accused of using their techniques for the purpose of "speeding up," the fact is being gradually recognized that by making work easy, industrial engineers actually cause a reduction in fatigue and therefore in accident rate. The increase in production which results from making work easier is usually

A native of Karachi, India (now in Pakistan) RAM VASWANI has been studying in the United States since 1952 under the International Educational Exchange Program of the U. S. Department of State. In 1941 he was graduated from the University of Bombay with the degree of Bachelor in Engineering (Mechanical). In 1954 he was graduated from Illinois Institute of Technology with the degree of M. S. in Industrial Engineering, with minor in fire protection and safety engineering. At present he is studying for the degree of Doctor of Engineering Science in Industrial and management engineering. While in India he had a varied experience in industry and with insurance firms and the government.

achieved with no extra expenditure of energy on the part of the worker.

On account of the importance of this factor, physiologists, psychologists and engineers have all been working on the problem of fatigue reduction. In spite of a great deal of research that has been done on problems relating to fatigue caused by muscular activity, we still do not have all the answers. In the words of Dr. Samson Wright, professor of physiology, University of London, "The cause of fatigue of the muscle is unknown. Fatigue in a steady, moderate, prolonged exercise is due to a number of ill-understood factors." The problem is complicated by that fact that in any investigation for fatigue, we are dealing with human beings, each of whom has individual differences and peculiarities, different features of rhythm, different reaction to motivation, and so forth.

Tired—Or Bored?

Let me illustrate one phase of the complicated nature of fatigue. A worker, named Joe, employed on a light industrial operation, starts work at 8 a.m. By 3:30, he feels so tired he cannot work any longer. So he goes to the wash room, changes into street clothes, and kills time. As soon as it is 4 o'clock, Joe is the first one out of the factory and jumps into his car so he can get to the golf course before anyone else.

The question arises: "Is Joe really tired?" Perhaps it would be more correct to say that Joe has been affected by the monotony of work (this condition has been referred to by some investigators

as psychological fatigue) and not by muscular fatigue.

In factories and workplaces, it is usually believed that the rate of output of work gives a measure of fatigue, and that when a worker is tired, he produces less. B. Muscio, a psychologist of the Industrial Fatigue Research Board, London, after a long investigation in 1921, came to the conclusion that this measure of fatigue is unscientific. This is because the rate of output is affected by the following factors:

1. Worker's capacity for work
2. Motivation
3. Amount of sleep the worker has had the previous night
4. Monotony of work
5. Distractions, such as noise

Physiological Aspects

Experiments in the laboratory and investigations in industry have shown that a tired worker not only works at a slow pace but also uses excessive energy and becomes more tired. This is because when activity is continued with the tired muscle groups, the adjacent muscles also come into play. This involvement of the adjacent muscles increases the energy expenditure and tremor, breaks up the rhythm of work and muscular coordination, causes changes in the brain due to insufficiency of oxygen, and therefore decreases mental alertness.

In order to understand some causes of fatigue due to muscular work, let us consider the physiological changes which occur in the human body when physical work is performed. From the physiological point of view, the human body can be compared to an engine. It consumes food and converts a part of it into useful energy. The carbohydrates in the food which we eat are converted into glycogen when they reach the liver after absorption from the intestines. Glycogen remains



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Hexachlorophene is the first germicidal agent ever found that stays antiseptic in soap. Daily washing with these Armour soaps containing Hexachlorophene will remove up to 95% of harmful skin bacteria! That's real protection for the people in your company and may add benefits in insurance and labor relations, too.

So order Liquid Dial® or powdered Formula #99 for your washrooms today! (You can order the powder form with either Borax or a vegetable scrubber added.) Request the samples and booklet and see for yourself how Armour Hexachlorophene soap protects against contact dermatitis!

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NL

in our blood stream as a store of energy. When we contract our muscles for performing physical work, the glycogen gets converted into lactic acid, which is a waste product. An accumulation of lactic acid in the muscles and in the blood stream reduces the capacity of the muscles for further activity. Rest and the supply of oxygen reconvert lactic acid into glycogen and restore the capacity of the muscles for activity.

Circulation of blood through the muscles also accelerates their recovery for activity. On the other hand, high temperature and humidity retard the recovery of muscles from fatigue. Thus rest pauses before fatigue sets in and proper temperature and environmental conditions are necessary for avoiding excessive fatigue. The coffee break in the mid-morning and mid-afternoon periods has become a standard practice in many factories.

Physiologists say that the heart of an averaged-sized man pumps about nine litres of blood per minute when he is lying down, seven when he is sitting, and five when he is standing. This is the volume of blood pumped when the man is not doing any physical work. The rate of blood circulation is higher when the man is engaged in muscular activity, although in this case the requirement of muscles for blood circulation is also higher.

If the same muscle or group of muscles is used continuously, the muscles do not get an opportunity to recuperate from fatigue. Hence the most economical way of performing a manual task is to spread the effort over as great a number of muscles as possible so that each muscle is worked at a low percentage of its capability.

This indicates the advantage of job analysis and motion study. Thus if the job set-up requires one hand to do too much work while the other hand is practically idle, it is advantageous to redesign the job set-up so that the work is distributed between the two hands. Again, if both hands have too much work to do, a part of the work might, if possible, be transferred to feet by providing foot pedals. Arranging workplaces

Safety Pioneer in Pacific Northwest To All Employees in the Different Departments

THE Management of the Olympia Brewing Company has the earnest desire to protect their employees against all possible harm to limb and body while engaged in work at their plants. It will save no expense whatever to throw all safeguards around every piece of machinery or place where and wherewith any man has to work. In order to accomplish this, we ask all employees to point out to the Foreman, (or Management in case the Foreman pays no attention) all places they are to work in and all tools they are to work with, when in their opinion dangerous, and they are hereby granted the right to refuse to work in such places and with such tools, without prejudice on the part of the company.

EVEN BEFORE organized safety work became general throughout the U. S. A. alert industrialists were concerned with safe working conditions. Shown above is a reproduction of a bulletin used in the Olympia Brewing Company, Olympia, Wash., some fifty years ago. It was signed by the founder of the company, Leopold F. Schmidt.

The poster was removed from its position in 1933 and now hangs in a gallery reserved for historical material of the company. The photograph of the poster was made available by Trueman L. Schmidt, vice-president of the company.

so that alternate sitting and standing is possible also enables the worker to relax from the fatigue caused in the muscles of the thighs due to continuous sitting.

Training and Skill

Results of research done by Dr. L. J. Henderson at the Fatigue Laboratory of Harvard University indicate that training has an effect on the amount of energy expended in work requiring muscular effort. In other words, a person trained in performing physical work uses less energy and feels less tired than an untrained person.

Anyone who recalls his first day on the ice skating rink will remember how tired he felt after just one hour's practice. Later on, with training, the skater learns how to use his energy most effectively and does not get easily tired even after skating for a few hours. This indicates the advantage of training programs for breaking in new employees or for training existing employees for new jobs to enable them to acquire the skill necessary for performing the job most efficiently.

During the training period, workers should be taught desirable work practices right from the beginning. Any undesirable work methods picked up by the workers will cause trouble because of the effort required in "unlearning." An efficient motion pattern for performing the manual task excludes unnecessary motions, except when these are required for the purpose of maintaining rhythm or for breaking the monotony of work.

Summary

By breaking up muscular co-ordination and reducing mental alertness, fatigue increases the probability of accidents. The following are some of the more important ways of reducing fatigue:

1. Re-engineering job set-ups by job analysis and motion study.
2. Frequent rest pauses, especially in work which makes a heavy demand for muscular effort.
3. Maintaining proper temperature and environmental conditions.
4. Provision of suitable seats for workers so they can work in sitting or standing position.
5. Training programs which enable workers to acquire the skill needed for the job.

MICRO SWITCH Trip Control

A PRINCIPLE OF GOOD PRODUCTION



This chart shows wide variety of press control methods available



1 One operator—two hands.



2 One operator—two hands or one foot.



3 One operator—two hands or either hand or one foot.



4 Two operators—one to four hands, any combination, or one foot.



5 Three operators—one to six hands, any combination, or one foot.

6 More than six hands, any combination, or one foot.

Step up power-machine production by 10 to 25%

• MICRO SWITCH Trip Controls provide a three-fold advantage when installed on your manually operated power machines. All of them spell increased production—sometimes as much as 25%.

1 Instantaneous electrical response of this clutch control boosts production by increasing the number of machine operations in a given period.

2 Almost universal application—available for single stroke or repeat operation—two hand or multiple station control—and for automatic cycling or inch control for hydraulic or pneumatic presses.

3 Protection for both operators and set up men. This Trip Control cannot be "cheated." Any component failure breaks the clutch operating circuit automatically.

MICRO SWITCH Trip Controls can usually be used without additional equipment on machines already equipped with solenoid or air cylinder clutch actuators. Where other clutch-actuating equipment is required MICRO SWITCH provides a complete installation package.

It will pay you to check the many advantages of MICRO SWITCH Trip Controls for your power machines. Write to MICRO SWITCH, Freeport, Illinois, for catalogue and for the name of the distributor nearest you.

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WHAT'S NEW

IN
NATIONAL SAFETY COUNCIL SERVICES *

Special Series Posters

The Council's special series posters are now available for seven different industries. The sets—each containing 12 posters—were developed to meet the need for special situation posters. Specific hazards, backgrounds and equipment are used to increase effectiveness.



The series now available are printing and publishing, construction, logging, fertilizer, marine, petroleum and office. The "Paul Bunyan" logging posters and the "Mel Onhead" construction posters are printed on extra heavy stock for outdoor use.

Operation Safety

Courtesy is the watchword of Operation Safety's February program, "Motor Manners." Every item in the kit points up the fact that courtesy on the road saves lives.

The featured leaflet, *Don't Be One!* calls attention to common breaches of highway courtesy which frequently lead to serious accidents. It also lists ten marks

of the courteous (and safe) driver. The purpose, of course, is to induce the reader to make a critical appraisal of his driving habits.

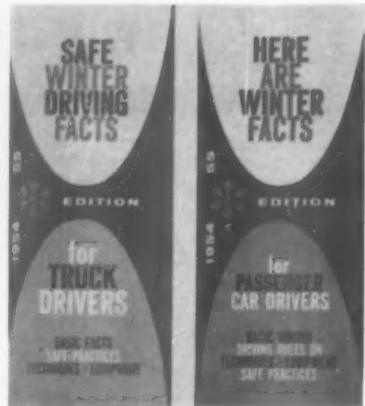
This leaflet, printed in two colors, measures 3" x 6"—a handy pocket size. It may be placed in hand-out boxes throughout the plant and office, enclosed in employee mailings, passed out with house organs.

The featured poster for the February program is a word poster, "Make Courtesy Your Code of the Road." It comes in two sizes, "A" and "C". The "A" size (8½" x 11½") is just the right size for bulletin board posting. It may also be used as a counter or table card, and special metal frames are available for mounting. The "C" size (25" x 38") is suitable for posting at entrances and exits to plant parking lots. It may also be used wherever there are large posting areas in office or plant.

For complete information on these items and on the entire Operation Safety program, write: Operation Safety, National Safety Council, 425 N. Michigan Avenue, Chicago 11, Illinois.

Winter Driving Hazards

Two booklets have recently been published by the Council, summarizing the findings of the Committee on Winter Driving Hazards. Completely revised and brought up to date, they are: "Safe Winter Driving Facts for Truck Drivers—1954-55 Edition," and "Here Are Winter Facts for Passenger Car Drivers." Both booklets stress the three bugaboos of winter driving—temperature changes, reduced visibility and inadequate traction.



And both booklets list these basic rules for safe winter driving:

1. Accept your responsibility to do all in your power to drive without accident. Don't blame the weatherman for an accident.
 2. Get the "feel" of the road. Try brakes occasionally while driving slowly and away from traffic. Find out just how slippery the road is and adjust your speed to road and weather conditions.
 3. Keep the windshield clear of snow, ice, fog and frost. Be sure headlights, windshield wiper blades and defrosters are in top condition. You have to see danger to avoid it.
 4. Use tire chains and good tires. Don't rely on worn-smooth tires. Use tire chains on snow and ice.
 5. Pump your brakes to slow or stop. Jamming them on can lock the wheels and throw you into a dangerous skid.
 6. Follow at a safe distance. Keep well back of the vehicle ahead—give yourself time to stop. Remember without tire chains it takes 3 to 12 times as far to stop on snow and ice as on dry concrete.
- Single copies of the booklets may be obtained without charge by writing the Committee on Winter Driving Hazards, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill. Prices for quantities may be obtained on request.



Look to this page each month for latest news about NSC services. Address requests for additional information, samples or prices to the Membership Department.

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The Hoist Line That Matches Tuffy Slings in strength and wearability—that's *Tuffy* Hoist Line! Absorbs load shocks smoothly, because it's designed *only* for hoisting...passes safety checks weeks after ordinary ropes would have been thrown away!

Ordering Is Easy! No complicated specifications—just state length, diameter and the name, "Tuffy Hoist Line." Reeve your crane with Tuffy and see the difference!

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You'll Find The Exclusive, patented braided-wire fabric construction takes strains and jolts that soon snap ordinary rope slings! It's the unique machine braided, 9-part construction that helps your Tuffy Sling resist kinking—and if you can kink it, you straighten it out in minutes *without material damage*!

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Safety's 14 Points

(From page 19)

and regulations in his area of work. This talk is given usually by the safety engineer. The employee's immediate supervisor then gives him an on-the-spot rundown of the safety requirements for his particular job. We recommend also that plant managers send letters on the subject of safety to all new employees. Incidentally, a modified form of this procedure is used for employees returning to the job after a prolonged absence for any reason.

Point 5 is to re-sell safety over and over. Each supervisor talks safety to at least one of his men every day. We've found from experience that these man-to-man talks are more effective than group discussions. Safety becomes a personal matter between each employee and his supervisor.

Point 6: Maintain firm plant discipline. A plant where discipline is lax cannot be a safe plant. Lack of discipline means lack of control, and without firm control any safety program is just talk and gesture. An employee should never be subjected to high-pressure safety campaigns of rigid discipline, followed by disastrous letdowns. Consistently firm and fair enforcement of safety (and all other) rules is the key to an effective safety program.

Point 7: Build safety into the job. This, of course, means tools and equipment designed and engineered to be safe, making personal protective equipment and detachable safety devices unnecessary. We at Ford feel—and I'm sure many of you do, too—that the standards set up by various safety engineering groups must be regarded as minimum. Our own requirements are frequently more rigid than these generally recognized standards.

No. 8 is related to No. 7: Get the safety engineer's approval on new equipment, machinery, layouts and design. The changes, guards or devices stipulated by the safety engineer must be completely installed before operations begin.

Paradoxically, we have found in recent years that eye injuries in manufacturing operations usually occur in areas where no eye-hazard is thought to exist. That is because the really hazardous jobs—spot-welding and grinding, for example—have had 100 per cent protection for a long time. Accordingly, our safety rule No. 9 is that eye protection for employees and visitors must be afforded in all manufacturing areas of new plants. Some of the older plants present problems, but we are moving in the direction of complete eye protection in all plants.

Point 10 is the requirement that safety permits be issued to employees engaged in operations which might endanger others. One obvious example is the truck

or tractor driver. In addition to his state license, the operator must have a company permit, and this involves passing a physical examination in addition to the usual technical requirements. Crane operators, railroad engineers and switchmen, and door-lifter and coke-pusher operators in the steel mill are examples of other occupational groups which must have safety permits.

Issuance of these permits is the responsibility of our safety staff, on the request of supervision and with the approval of the medical section. Permits are not renewed automatically; holders must be re-examined at regular intervals.

It is pretty obvious that good plant housekeeping not only means economy and efficiency, but greater safety as well. That is why Point 12 calls for planned and thorough housekeeping prac-

—To page 114

Safety Train Makes Fourth Trip



CLIMAXING a series of safety rallies for employees of the Pittsburgh & West Virginia Railroad was the operation of the Fourth Annual Safety Special train from Rock to Monessen. Lunch was served en route.

Nine meetings were held October 25, 26 and 27 for employees of the Transportation, Maintenance of Way, Locomotive, and Car and Stores Departments.

Films shown at all meetings included Motor Mania, an animated color film on driving; The Tenth Man, produced by the Union Pacific Railroad, and Escape from Limbo, prepared by the Pennsylvania Railroad.

Guest speakers included Pfc. Bohner, Pennsylvania State Police, and Earl E. Stephan, Western Pennsylvania Safety Council.

At Monessen, the party joined the Maintenance of Way employees for the final meeting.



Mrs. Donald Cummings, Jr., and her young son Donald

"I WASN'T ALONE ANY MORE"

Most of us know what it is like to have a telephone. But have you ever thought what it would be like if it wasn't there, even for a little while?

Here are some good words along that line from Mrs. Donald Cummings, Jr.

"When we moved into our new house," she told us a few weeks ago, "I felt a little strange—with a young baby and all—and I couldn't seem to get a feeling of being settled and at home.

"Then the telephone was put in. And suddenly everything seemed different. I could call people! I felt better about being by myself in the house with the baby. I felt better about my mother who had been ill in Boston. And about my husband in uniform far away.

"And then I realized that it wasn't just the telephone calls I could make—it was that people could call me if necessary. I wasn't alone any more."

BELL TELEPHONE SYSTEM

Reminding you that someone, somewhere, would like to hear your voice today.

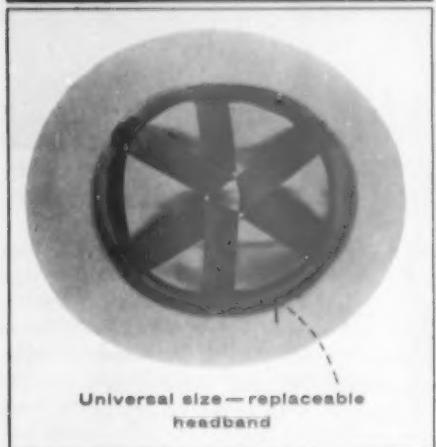




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REBOUND!**

These Bullard engineering and sales research men are studying not only the impact, but also the rebound of this eight pound ball. Rebound action is the extra safety margin in Bullard safety hats and caps. Their scientifically designed three-ribbed crown not only resists impact but deflects heavy falling objects. This is one of the reasons why Bullard fiber glass hats and caps surpass all necessary industrial tests.

Greater protection plus style, comfort and color make Bullard head protection the best and longest lasting buy in safety hats and caps. Chin straps, winterliners and face shields are available for all styles of Bullard safety hats and caps.



Universal size—replaceable headband

Choice of permanent molded-in colors to identify company or trade. Aluminum hats and caps available also in variety of colors.



BULLARD

E. D. Bullard Company, 275 Eighth St., San Francisco

Ability or Attitude?

—From page 54

to observe his actions, and how he acts when he gets behind the steering wheel of an automobile.

If you are one whose attitude is easily changed from good to bad or indifferent, and your blood pressure rises at the slightest provocation, then you are the victim, not the master of your attitude.

A first century Roman by the name of Pliny, famous as a Latin orator, once said: "Accustom yourself to master and overcome things of difficulty; for if you observe, the left hand for want of practice is insignificant, and not adapted to general business, yet it holds the bridle better than the right, from constant use."

So if your attitude is a "thing of difficulty" it would seem that in order to become its master you alone must take certain corrective measures. You can't pass the buck on that one; you're truly on your own.

Endorse Approval Seal For Sanitary Products

PROPOSALS to establish a carefully policed "seal of approval" for products used in the sanitary supply industry received generous support from representatives of all phases of the industry at the first annual meeting of the Industrial Housekeeping Safety Guild held in Atlantic City, November 7-11.

Those attending the symposium were careful to limit their support to a seal of approval which would guarantee certain minimum standards of performance in materials or equipment bearing the Guild label.

Participants in the discussion quickly vetoed suggestions that the Guild's seal of approval might specify the ingredients of tested products and their proportions.

"If you tried that you would find it next to impossible to get any honest manufacturer to give you his formulation," warned E. Willard Merritt, general sales director of the Walter G. Legge Company, New York floor polish manufacturers.

Consumer and distributor representatives both pointed out that knowing the active ingredients of a product, or the proportions of those ingredients, would mean little to them, since lack of one ingredient might be offset by the presence of another. Dan Granato, service manager for Sharp and Dohme, Philadelphia, asserted that over-all claims as to the quality of a product must still depend largely on the end use to which the product is put.

Thomas M. Shea, chief design engineer for Sharp & Dohme, brought up the point that materials and equipment account for only 15 per cent of the maintenance cost of industrial plants, the rest going for labor. As a result, he said, the emphasis in buying a product must be on its ability to do its given job faster and more effectively. The end user, Shea added, would welcome a guarantee, such as the Guild seal of approval might give, that a maintenance supply item had been tested and had given a certain minimum standard of performance.

Seymour Chase, sales manager for Federal Fibre Corp., Long Island City, agreed that the end user is interested primarily in results. "The average buyer a salesman sees wants to know if his is a quality product, how much it costs, and whether it will do what the makers say it will do," he asserted. The Guild seal of approval, he added, should say that a product will perform in actual use as its manufacturer says it will, and that it actually contains what the manufacturer says it does. The problem of policing the quality of approved products, Chase continued, is to see that the manufacturer maintains the quality shown in the samples he submits for testing.

Consensus of the meeting, although no formal vote was taken, was that the Guild should proceed with establishing a seal of approval.

The 1955 convention will be held in Town Hall, Philadelphia, October 30-November 3.

A good way to get into trouble is to be right at the wrong time.



**ELIMINATE
THIS
DANGER ZONE!**

You can eliminate this danger zone under any hoist, crane, or other lifting equipment with Bullard-Burnham safety hooks. A pushbutton safety gate makes it impossible for loads to jar loose until the hook is manually unlocked, and also acts as a constant safety gauge indicating whether or not the hook is sprung. Notice that the safety gate leaves the hook's throat 100% clear. The heavy duty safety gate is non-corrosive brass with a stainless steel lock pin that will last for years.

E. D. Bullard Company, 275 Eighth St., San Francisco

Hook
on load block

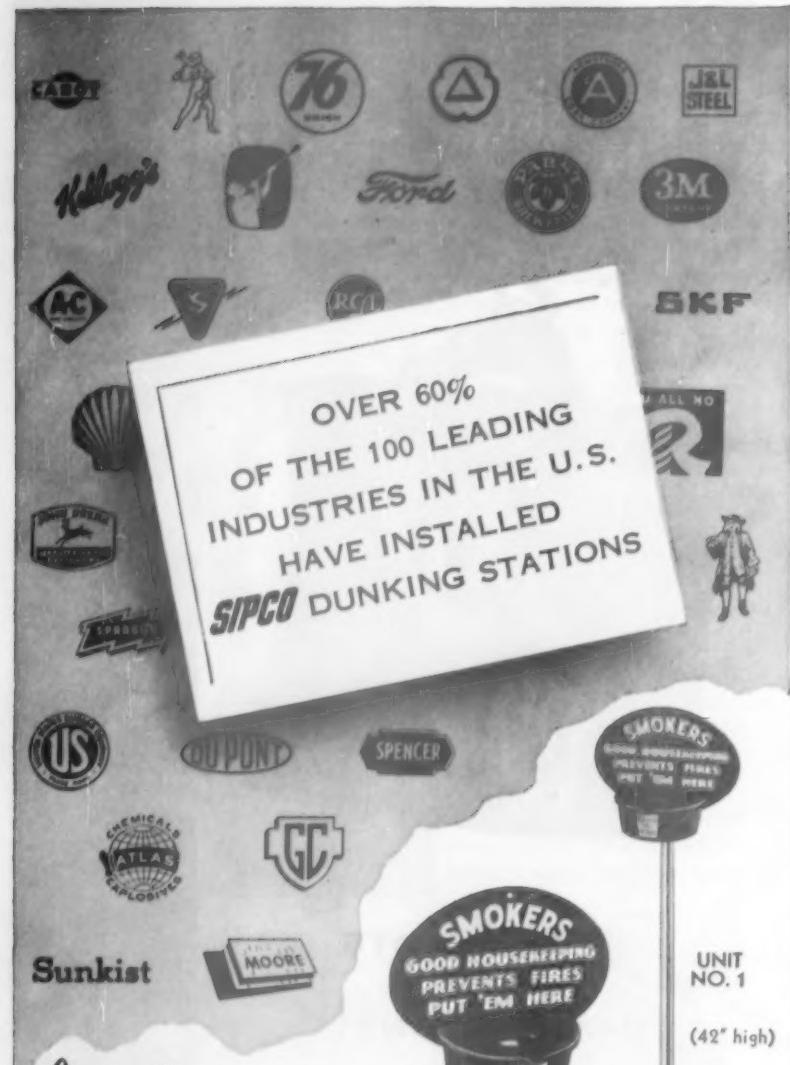
Hook with
jaw and jaw-type ball
for link chain

Hook with
adapter nut for all
types of pullers

Write for complete data and specifications



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Matches...

IMMEDIATELY EXTINGUISHED!



It's not the cigarette or cigar that's being smoked that causes fires — it's after they're discarded and forgotten that they become a serious fire hazard! SIPCO DUNKING STATIONS end this fire hazard by immediately drowning every last dangerous spark.

Why not rid your plant of smoldering fire hazards by installing SIPCO DUNKING STATIONS. They are built for heavy industrial use and abuse — are attractive — economical — the perfect solution to your plant smoking problem.

WRITE DEPT. S FOR DESCRIPTIVE LITERATURE
"Sparky" reproduced through courtesy of N.F.P.A.

"Sparky" reproduced through courtesy of N.F.P.A.

SIPCO
STANDARD INDUSTRIAL PRODUCTS CO.
116 SO. GARFIELD AVE.

PEORIA, ILLINOIS

Safety Progress in Japan's Shipyards

SHIPBUILDING, whether in the U.S.A. or in Japan, is rated as a hazardous operation, but well planned accident prevention programs are getting results in both countries. On September 11, Mukaishima Yard of Hitachi Shipbuilding & Engineering Company of Osaka completed 2,007,138 man-hours without a disabling injury, climaxing a steady reduction in the accident frequency rate during the past four years.

Commenting on accident prevention in Japanese shipyards and his own company's experience, Hideo Kuwabara, managing director, wrote:

"It has been considered that shipbuilding industry is the most dangerous field in comparison with any other manufacturing industry, and also difficult to spread the safety movement.

"The average frequency of safety movement among 37 leading shipbuilders which have been organized by the Japan Shipbuilding Industry Conference, was 87.45 in 1951, however, the figure declined to 32.44 in July, 1954.

"The declined figure proves that other shipbuilders were greatly stimulated by the safety movement affected in our five yards.

"From my experience, it seems quite easy to promote this movement, if a few firms out of other shipbuilders take interest in it.

"This new non-injury record which aggregates to 2,007,138 man hours and recognized by the authority was established by the Repairing Section of the Mukashima Yard on Sept. 11, 1954. Even today this record is being kept up with.

"Repair works of ships are far dangerous than that of new building, because, for instance, in the latter case the total working schedule is regularly planned from its beginning, as like designing, securing materials and so forth. While in the former case, the works must be carried out in such a short period as from several days to one month.

"As soon as a ship which is to be repaired enters the dock, occasionally the cabin is taken off, shell plate is cut off sectionally

with gas, and replaced with new plates while engineers and workmen must work in narrow spaces in the ship where scraps are accumulated during the whole working period.

"When workers descend down through opened manhole or ladder entrance leading to the lower deck, they must be careful in order to avoid any injury.

"At Repairing Section of our Mukaishima yard, 500 to 800 workers have put in an average of 20 per cent overtime including straight overnight duty for the period of two years commencing from December 5, 1952 to September 11, 1954.

"Encountering many difficulties, however, the above record was established by the Mukai-shima yard managed by Mr. Toichi Yuba, who is a director and an earnest co-operator in this movement.

"Moreover, it owes much to Mr. Kanemasa Ikeda, manager of Engineering Dept., and Mr. Takanori Sato, Chief of Repairing Section who has put in 25 years long experience for repairing ship.

"In conclusion, I assure that this unbreakable record has been accomplished through the efforts of the said three persons as well as other co-operators for their continuous understanding and endeavours to this safety movement, and I duly hope that we are able to keep up this non-injury record as long as possible."

Industrial Health

—From page 51

men worked for companies where employment was steady, where each company had a cafeteria and at least one full time plant physician, and the men were physically fit to work and were working during the study. There were no cases of acute nutritional deficiency diseases.

The less than optimum nutritional status and obesity were observed throughout all educational, age, income and ethnic groups. The most frequently observed dietary faults were low consumption of milk and the vegetables and fruits rich in vitamin C and high consumption of unenriched bread and pastries,

The ARCHITECT knows that ALGRIP

—the *only* abrasive rolled steel floor plate in the world—means permanent safety against slipping accidents in any industrial plant . . . even on wet, greasy or oil-splashed floors or ramps.

He also knows . . .

—that ALGRIP's depth-controlled abrasive penetration of its rolled steel base . . . assuring a safety surface self-renewed against the hardest wear . . . means greater . . . constant . . . and lasting . . . safety of your workers' lives.

—that ALGRIP is approved for safety by the Underwriters' Laboratories.

A.W. ALGRIP Abrasive Rolled Steel Floor Plate puts your business on a firm footing.



A.W. ALGRIP

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Please send A.W. ALGRIP Booklet AL-19

Name _____

Title _____

Company _____

Address _____

City _____ Zone _____ State _____

Other products: A.W. SUPER-DIAMOND Rolled Steel Floor Plate—Plates—Sheets—Strip—(Alloy and Special Grades)





In addition to a wide range of sizes labeled by Underwriters Laboratories, Inc., Kinnear offers all the famous fire-safety features of "Akbar" Steel Rolling Fire Doors, in any practical size. Door in this photo is 36 feet high, 24 feet wide.

Made only by Kinnear, Akbar Doors assure safe, positive, automatic protection, blocking fire and flame-spreading drafts at doorways, windows, corridors, or other passages.

They have saved as much as one-third of their initial cost every year, in reduced insurance rates alone.

"Akbar" Doors remain coiled out of the way above the opening when not in use. But in case of fire, heat releases a fusible link, and a strong spring starts the door downward instantly, with a positive push.

The KINNEAR Manufacturing Co.

*SAVING WAYS
in
DOORWAYS*

KINNEAR
ROLLING DOORS

FACTORIES
1720-40 Fields Avenue, Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.
Offices and Agents in All Principal Cities

sweetened beverages and candy bars.

The contributing causes of unbalanced diets frequently were between meal snacks of sweet foods and inadequate breakfasts.

The most practical implication of these findings is that the measures taken to improve the nutrition of industrial workers should be directed to all workers regardless of education, age or income groups.

Rapid Decompression

Evaluation of Pulmonary Function After Rapid or Explosive Decompression, by William W. Pryor, M.D. and Gerald Marks, M.D. The Journal of the American Medical Association, 156: 1233-1235 (November 27, 1954).

IN A RAPID or explosive decompression, the effect may be the same as being raised from the ground to a height of one and one-half to two miles in less than three seconds. With a pressure change as rapid as this, the expansion of the gas in the lungs and gastrointestinal tract may be sufficiently rapid that there is a pressure rise in the internal organ.

Because such a decompression is apt to occur whenever pressurized aircraft loses its cabin pressure, the Air Force has been interested in these effects for years, and there have been many studies in the immediate effects of explosive decompression, both on animals and on men. There has been little study, however, of the possible effects on health of repeated exposure to such decompressions or as to the possible weight effects on the individuals of such exposures.

The continuous increase in the altitudes at which commercial passenger aircraft operate makes study of the possible effects of decompression a matter of more general interest, both because the passengers and crews of these aircraft may be subject to explosive decompression and because the passengers, at least, will be less carefully selected for good health than are air force personnel.

As a first check on possible effects, eight men from 23 to 42 years old in good health and with no history of respiratory distress of any kind who have been subjected to repeated rapid and ex-

plosive decompressions over a period of one to six years and who have also engaged in long periods of pressure breathing were given a battery of pulmonary function tests which should indicate any significant abnormality in their lungs.

Because of the nature of the work, it was not possible to get a record of the actual number of decompressions but each subject had been explosively decompressed at least five or six times and mostly they were subjected to about 30 rapid decompressions a year.

Total lung capacity and vital capacity were slightly above the usual normal range in some instances but there was no marked abnormality in any of the tests.

Although none of the tests showed any evidence of altered lung function in this group, the question of what effect might occur in cases of chronic lung diseases with obstruction of the airways has still not been studied. With present aircraft and altitudes, the fact of rapid loss of pressure in itself is not apt to be harmful to normal individuals.

TV Sports Teach Kids Safety and Behavior

The Cisco Kid and Pancho, well-known to young TV viewers, are combining public service with commercials on their weekly telecasts by integrating 20-second safety and good behavior demonstrations. Primary sponsor is Interstate Bakeries Corp.

The messages can be used as 20-second pullouts for spot use as well as in the show's commercial time. They are currently being used on Southern California stations and will be introduced on a staggered schedule through the remainder of Interstate territory over a period of several months.

The twelve spots cover crossing streets, keeping things in order, letting parents know where youngsters are, personal cleanliness, eating properly, swimming, sleep and rest, bicycle riding, share of work, care of animals, and consideration for other people's property.



YOUR MEN'S HANDS MEET WORSE DANGERS EVERY DAY



Hand injuries are the most frequently reported. Let Jomacs keep your men's hands safe. Send for full information today.

Dangerous as a tiger's fangs—sharp metal can slash, cut, tear or rip unwary hands. The cost can be shockingly high! Pile up lost man-hours and lost production, top them off with soaring insurance premiums, and you'll see what we mean.

Remedy: Jomac® Work Gloves wherever there's a hand hazard. Jomacs look soft and fluffy, but they're made of tough, thick, twisted-loop fabric that armors the hands against injury. They're astonishingly resistant to cuts, abrasion, bruising shocks, heat and cold. And they actually outwear common work gloves by 900%. They can be cleaned many times.

Want better safety records and lower insurance rates? Get them at low cost—with long-wearing Jomacs. We'll be glad to send you our new catalog. Just tell us your address and be sure to ask about a trial order. JOMAC INC., (formerly C. Walker Jones Co.) Dept. D, Philadelphia 38, Pa.

It pays to keep Jomacs on hand!

JOMAC

INDUSTRIAL WORK GLOVES

Outwear ordinary work gloves by 900%

PLANTS IN PHILADELPHIA, PA., AND WARSAW, IND.

Specialists in Industrial Cleaning Products



New York City Transit Authority bus garages use ZORBALL to keep floors safe, dry and slip-proof.

ZORBALL keeps N.Y.C.T.A. garage floors clean and safe!



The New York City Transit Authority, world's largest transit system, serves millions of people a day.

The bus division alone operates 2,000 buses and 14 garage depots. To keep garage floors clean and safe, the New York City Transit Authority relies on ZORBALL—the all-purpose floor absorbent.

There are good reasons why users prefer ZORBALL over all other absorbents. The N.Y.C.T.A. is sold on its resistance to breakdown, and its safety for employees and equipment. ZORBALL, in the presence of water,

is non-slippery. Almost everyone agrees that ZORBALL is the safest, lowest use-cost floor absorbent available!

Safest—ZORBALL will not mud, cake or dust—remains granular, even under heavy traffic or extremely wet conditions. *Lowest use cost*—ZORBALL takes hard use longer, is easily removed, can be re-used.

Your Wyandotte representative or jobber will show how you can save by using economical ZORBALL. Call him today for a sample and demonstration! *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Also Los Nietos, California.*

Everybody Into the Act

—From page 25

starting with "The life you save may be your own."

But perhaps I should clarify why you need a basic theme. You just take a look into a woman's head—any woman's—your wife, your secretary, a girl on the production line. Look at all the things she's thinking about . . . Must buy tickets for the Church Bazaar. Better bake a cake . . . Could I use a cake mix? . . . Wonder if Joe will go? . . . Who'll put little Joe to bed? . . . How'd he do in his test today? . . . I better talk to his teacher . . . Think we ought to get her teeth straightened . . . Wonder how I'd look in one of those Dior dresses . . . Where'd I get the money to buy a new dress? . . . Put potatoes on the grocery list . . . Only two cans of orange juice . . . Might be

★ ★ ★ ★ ★ ★ ★ ★ ★

Seven deadly sins: politics without principle, wealth without work, pleasure without conscience, knowledge without character, business without morality, science without humanity, and worship without sacrifice.

—E. Stanley Jones

★ ★ ★ ★ ★ ★ ★ ★ ★

cheaper at the super market . . . I need a permanent . . . Getting a little sallow, too . . . Stream of consciousness. Goes on all the time.

Then you take a man . . . Life insurance coming due . . . Must see Joe about that loan . . . Wish I hadn't bet on the Indians . . . Who's going to get Jim's job? . . . Suppose I haven't got a chance . . . Ought to lose a little weight . . . Better get a haircut . . . Suppose that kid's going to want the car tonight . . . Never get a chance to get it greased . . . Good looking blonde there . . . Well stacked.

Sure, it goes on all the time, too. So along come advertisers and we chip in our two cents worth. You know: "Free. Free. Free . . . Announcing . . . Big News . . . Big 1c Sale . . . Bargain . . . Buy now . . . Try all three . . . See the new models . . . You get a perfect cake every time you bake

Wyandotte CHEMICALS

Helpful service representatives in 138 cities in the United States and Canada

Largest manufacturers of specialized cleaning products for business and industry

... Quick, nutritious, and so delicious . . .

And then you come along and just want to tell them to play it safe! Brother, you've got to find a way to say it—if you want it to dig a hole for itself in those busy heads.

If your safety program hasn't got a basic theme, it needs one.

And sometimes the basic theme doesn't have to shout. One thing we discover all the time our business is that a whisper is sometimes more effective. We call it "soft sell"—the friendly words, the low pressure words, the words that make a woman—or a man—know you understand—you sympathize, feel for him.

One of the nicest samples of soft sell in the safety business that I have ever seen is a sign near Milbrook, N.Y., on a winding country road. On this road is a small estate. And at the roadside is a sign like this: "Please drive carefully and watch out for chickens, kittens, a small boy on a bicycle, and a tired old dog." And when you leave the property there is another sign that says simply "Thank you very much."

That is a sign a safety man or woman ought to frame and keep on his desk. It might influence some of the things you say and write.

I'm very conscious that I'm a beginner at this safety business. So forgive me if you know all the things I'm telling you. Just use me as a check list to tick off some of the things you may have forgotten.

Are all your programs positive programs? I was asked to tell you things we have learned in advertising that have an application to safety. One thing we learn over and over again is that you catch more flies with 'lasses than vinegar.

I do the public relations for my home town Community Chest. Last year we had a campaign theme—"Are you a good neighbor—or are you?" It went into details—are you the kind of man who supports your town's hospitals—or are you? Do you help the needy—or do you? And so on. People thought it was pretty good.

But this year we revised that

MORE *built-in* PROTECTION!



BUFFALO
better-built

Trade-Mark Registered

SODA-ACID STAINLESS STEEL EXTINGUISHERS

- LARGE RADIUS ELBOW
- LEAD STOPPLE
- POSITIVE BOTTLE CLAMP
- STAINLESS STEEL CAGE
- WATER LEVEL MARKER
- HEAT-PROOF 8 OZ. BOTTLE
- STAINLESS STEEL,
ELECTRIC WELDED CONSTRUCTION
- LIGHTWEIGHT . . . 7 lbs. or 1/3
lighter than ordinary types.
- STRONG . . . tested to 500 lbs.,
ordinary types tested to 350 lbs.
- DURABLE . . . rust, acid,
corrosion resistant.
- KINK-PROOF HOSE
- CONVEX BASE . . . for strength
- PLASTIC NOZZLE
- CONVENIENT HANDLE

2 1/2 GALLON SIZE AND
20 & 40 GALLON WHEELED ENGINES

**UNDERWRITERS' LABORATORIES,
AND FACTORY MUTUAL APPROVED!**

You get surer fire protection from Buffalo better-built extinguishers because there's more protection built-in! Highest engineering standards, exacting manufacture and precision inspection produce the finest extinguishers possible. Dealing with your Buffalo industrial distributor has many advantages. He carries a complete line of Buffalo better-built portable extinguishers, parts and recharges. Simply call him, one transaction will answer your fire protection needs in a hurry. Call him now! He is listed in the yellow pages of your telephone directory!



**WRITE TODAY FOR THIS COMPLETE
POCKET GUIDE TO FIRE PROTECTION!**

SINCE 1895 . . .

BUFFALO FIRE APPLIANCE
CORPORATION
DAYTON 1, OHIO

program. We have a new theme—"You're pretty wonderful." "You're pretty wonderful," the campaign literature tells you. "You're the kind of man who keeps the hospitals going, who helps your neighbors when they need you. You live in a wonderful town. It's a wonderful town because you're you!"

Same basic information—but the emphasis has changed. Well, the returns aren't in yet—but I went to a campaign dinner last Wednesday and to a worker they

believe they're off to a wonderful year.

I think that has an application in safety programs. *You're pretty wonderful!* You're the driver who doesn't have an accident. You're the man who gives the other man the right of way and the benefit of the doubt. You're the man who wins the medals—the safety medals. You never let the team or the community down.

Why shouldn't I get a letter of thanks from my insurance company every year congratulating

me on another year of safe driving? I don't—but I'd like to. Why shouldn't the town throw a party for all teenage drivers who have never had an accident. Why shouldn't we pin medals on people who keep the rules.

For you know yourself that, just as in some schools it isn't popular to be a student, so in some schools it isn't popular to play it safe. There's an attractive, glamorous quality about daredevils, about reckless characters, about people who take chances. There's a plodding, dull, unimaginative sound about safety. "Nice safe fellow, never set the world on fire." It's your job, it's everybody's job, to reverse that point of view.

Sometimes you can do it with a light touch. You're doing it magnificently, I think, in things like "The life you save may be your own." "Stay with your match until it goes out—it has a head but doesn't use it." "Children should be seen and not hurt. Drive carefully—we love our children." You're getting help from advertisers—like the New Year's ad "Make that one for the road—coffee." Or the posters—"Please drive carefully and let our little shavers grow."

You've caught young drivers' fancy with those signs on trucks—"Left side Ebbets Field, right side Potter's Field." Or "left side, goodbye; right side, goodbye forever." Or the tiny, tiny sign I saw on a huge Army armored weapons truck. It didn't say "If you can read this, you're too darn close." It just said "Hello, sucker."

Brainstorm groups in the plant, at the office, at school, in the home, could work on the psychological approaches that might make safety fun.

Appeal to Primary Wants

They talk a lot in our business about primary wants. People want food. They want drink. They want to be warm and comfortable. They want to be safe—that is, they want to be free from pain and danger. They want to love and be loved. They want good things for the people they love. They want to be liked as well as loved—they want social approval. They want to be on

STOP ATHLETE'S FOOT THE SANI-MIST WAY!



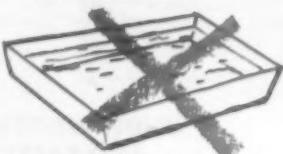
1. Step on
2. Mark time *That's all!*
3. Step off

Don't Spread It

the old fashioned way!

THE NEW SANITARY WAY

THE OLD WAY



Keep your employees' productivity up, and plant accidents down, by preventing the spread of Athlete's Foot fungi in your plant's shower room with the most sanitary foot protective device yet developed.

The SANI-MISTER Spray Dispenser provides a cooling, refreshing, full strength treatment for each user. SANI-MIST solution is individually dispensed from a sealed tank, preventing contamination or dilution by previously used solution or shower drippings. Workers prefer this personal, inviting method to ordinary foot baths or foot pads.

Laboratory tests show that SANI-MIST solution kills the principal fungi causing Athlete's Foot in less than 30 seconds. The SANI-MIST method costs only a few cents a day. For complete details, write TODAY!

SANI-MIST INC. Dept. N
1724 Chestnut Street • Phila. 3, Pa.

top—there's a driving force in most men that makes them want to come out on top in one thing or another. They want mastery over obstacles. And sometimes they want to play. These are primary wants, the psychologists say. They have it all over the secondary wants of health, convenience, quality, economy, education—things like that.

There are very few of man's primary wants that have nothing to suggest to the man who sells safety. You may not be marketing food and drink, although the campaign "one for the road" is a safety campaign of importance. But certainly you are selling comfort, you are selling escape from pain and danger, you are talking straight to a man's deep desires to be loved, to be admired, to have his loved ones protected, to win social approval, to have something to be proud of, to master an obstacle.

When you can make a man or a plant or a community as proud of its safety record as its baseball team, then you have done a great thing.

And you're doing it. The Advertising Council, that great volunteer organization supported by my business and yours, sent me a tremendous sheaf of statistics. Millions of lines of newspaper advertisements, thousands of radio and TV spots, hundreds of magazine articles—all contributed, all on the subject of safety. More than \$1,000,000 in advertising was given to this cause in the first six months of the Stop Accidents program.

That was in 1946 and it has been going at a great rate ever since. There are traffic safety and home safety and farm safety and fire prevention programs going strong all over America as a result of the work of the Advertising Council. Their newest campaign is directed straight at the psychological reasons why men have accidents. Advertisers like Goodrich, Ethyl, Standard Oil, Minnesota Mining, and Liberty Mutual, just to name a few, are pouring big appropriations into safety advertising.

Our tragic accident records are shocking. But a survey by BBDO for our client B. F. Goodrich, who

contributed a long series of safety commercials this year, indicated that at least 65 per cent of the drivers interviewed had heard safety commercials on the air.

I doubt whether there could have been many drivers on the road over Labor Day or the Fourth of July or any of our big-accident weekends recently who were not conscious of newspaper and TV and radio warnings—and I, for one, felt that the quality of

weekend driving was distinctly better over those weekends than any other time during the season. You can talk people into thinking about safety—you can save their lives in spite of themselves.

I know you are doing it in your plant, too. I visited a plant right here in Chicago recently that had something like a 600-day safety record. Unfortunately, the day before I turned up someone broke the record. And I have never seen

NOW...the best is even better!



National offers
2½-gal. Foam &
Soda-Acid Hand
Extinguishers

Saves Space, Weight, Handling Moisture-Proof Plastic Package for FOAM Extinguisher Charges

• National Foam Charges for the 2½-gallon Chemical Foam Extinguishers now come in air-tight, heat-sealed, plastic bags. Save space (35%) . . . save weight (13.4%) . . . easy to dispose of when empty. Store for long periods without deterioration. National Cold-water Charges can be used in any make of 2½-gallon foam fire extinguisher. Write for data, prices on this and other National Foam Products and Devices for POSITIVE fire protection.

NATIONAL

FOAM SYSTEM, INCORPORATED

Headquarters for Foam Fire Protection—WEST CHESTER, PA.

**A Full 5 Inches of
Body Movement
With Ease and Safety**



**BASHLIN'S
New Shifting Tool Dee
Safety Belt**

Next to Safety in the experienced lineman's book, Accessibility of Tools is of first importance in selecting a Safety Belt. This new Bashlin Safety Belt is designed with sliding tool loops... keeps tools within easy reach. And the built-in extra safety factor saves the Safety Strap from wear. It's Safe... Practical... Comfortable... and you know it's right. It's Bashlin.

Another First

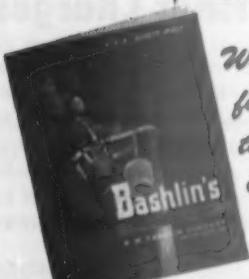
One piece aluminum sleeve adjusts from 15" to 18" in multiples of $\frac{1}{4}$ ". Locked in place with standard steel screws.

Comfort on the job, lightness and safety combine in Bashlin's adjustable Climber with removable gaff... Forged of aluminum alloy, the Bashlin Climber is lighter than conventional climbers and the same strength as equivalent steel. It's form fitting and has all the original Bashlin features.

No.
BD 14

Removable gaff forged from alloy steel, features triple locking device with standard self-locking tested steel screws

Write
for
this
catalog



W.M. BASHLIN
COMPANY
GROVE CITY 3, PA.

more crestfallen faces. People were unhappy all through the plant that they had to start all over again.

I think you're wonderful. And you've chosen a wonderful life. But there's a long way to go and you know it. There's a long way to go—when babies still find fiery poisons on closet floors as one did in my town recently. There's a long way to go when our hospitals and surgeons spend night after night patching up the remains of the wrecks on the road. There's a long way to go in giving our children and our workers and our citizens such a warm, comfortable feeling of belonging that they leave the ranks of the accident prone.

I have been talking about safety as a business. But I know none of us can fail to be conscious of the fact that it is a great and eternally heart-stirring cause. Recently I sat through a double funeral—the funeral of a mother and her mother, who died because they suddenly saw the left turn they wanted but didn't see the taxicab coming upon them in the rear. The survivor of that accident was one small boy.

Within the past months I have watched one family pick up the pieces of their lives after the news that their only son died in a college weekend accident. I have seen my own son's face as he described an accident that took the lives of two of his close friends. I have read with incomprehensible heartache of the death by accident of one of the gayest, kindest young fathers I know—two months before the birth of his second child.

And I have lain awake in the darkness night after night, as thousands of mothers lie awake, waiting to hear a young daughter come home safely from a date or a son come home safely from a weekend. Anything that can save the life of one young American is a fine and splendid thing and I am thankful you are doing it.

A woman who spent most of her life in the Malay peninsula one time told me of an expression that is so much a part of their language it has become a part of their lives. When you go for a walk, she said, they will say "Walk peacefully. When you sit

SAFETY REPLACES DANGER SPOT!



SAFE!
**SAVE
MAN HOURS
AND MEN!**



Kleerflo
SUPER CLEANMASTER
MODEL 50

**CLEAN AUTOMOTIVE INDUSTRIAL PARTS
3 WAYS!**

1. Continuous flow hose
 2. Air Agitated soaking tank
 3. "Super Power" Jet Air Gun
- Write for illustrated folder

America's Foremost Producer of Parts Cleaning Equipment
PRACTICAL PRODUCTS CO.
2632 Nicollet Avenue • Minneapolis, Minn.

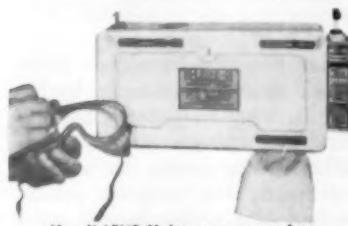
KUREM KUREM KUREM KUREM KUREM KUREM KUREM

SEEING IS BELIEVING in



IT TAKES FORESIGHT TO SAVE EYESIGHT

For safe, clear vision use K-LENS-M Lens Cleaner and K-LENS-M Anti-Fogging Liquid.



Use K-LENS-M in your eye-safety program and see the results.

A trial will convince you. Send for FREE sample of K-LENS-M Liquids on your company letterhead.

K-LENS-M

The Acknowledged Leader
in the Lens-Cleaning Field

THE WILKINS CO., INC.

Cortland 1, N. Y.

KUREM KUREM

NOW! PORTABLE PROTECTION FROM ARC - FLASH - SPARK

COMPLETE PROTECTION

Confines harmful welding flash for personnel protection, and safeguards your property from sparks, torches, salamanders, hot chips, or abrasive particles.



LIGHT WEIGHT . . . PORTABLE

SPA-FLA Shields are easily carried from job to job . . . hang flat against a wall — out of the way — when not in use.



WRITE TODAY FOR
COMPLETE DETAILS
AND PRICE
INFORMATION

WITH
SPA-FLA
Trade Mark Reg. Pat. Applied for

PORTABLE SAFETY SHIELD!

Stands solidly formed in any position desired to provide safe protection of property and personnel. With the addition of sturdy "On the Ring" Stands, the SPA-FLA Shield is an excellent wind breaker and protector for outside use. Material is 15 ounce fire resistant yellow canvas — completely Underwriters Laboratories Approved.

NEW INDUSTRIAL WELDING CART UNIT INCLUDES SPA-FLA SHIELD

Introduced at the Safety Show in Chicago, this welding cart is the "last word" in **COMPLETE** safety and portability with the addition of the SPA-FLA Shield. SPA-FLA Shields are available in various stock sizes, 18" x 36" through 72" x 108". Special sizes are also available on request.

FROMMEL Industries

298 Main Street, Dubuque, Ia.

For Safety For Powerful Action

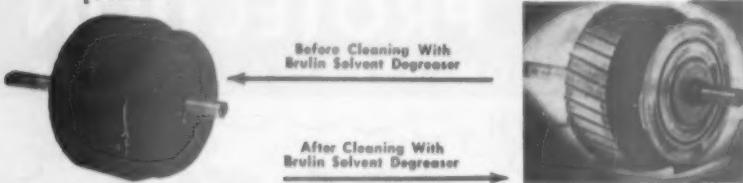


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Low Toxicity Fire Hazards Minimized

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down to eat, "Eat peacefully." When you go to sleep, "Sleep peacefully." When you go for a drive, "Drive peacefully." I hope that all of us will be able to go home from this meeting recharged with a determination to write the words, drive safely, walk safely, work safely, live safely, into the hearts and minds of your families at home and your families at work.

May God bless you, as the prayer book puts it, in all your innocent endeavors. And may you follow your own good precepts—and have a safe trip home!

Beware of the Dog

—From page 33

All of you who have dogs know that a dog gets acquainted by his nose. He's got to do some sniffing to find out who you are.

When a dog comes up barking or growling for no good reason you feel like giving him a good boot, but that only makes matters worse. It is the person he's defending who must do the disciplining.

If the owner tries to grab or call the dog and he runs off and continues to threaten you at a distance, you'll know this is a badly spoiled dog, undisciplined in every way. Under certain circumstances the only thing to do is to tell the owner, "I'll wait until you put your dog away." You can't train an owner in one easy lesson.

You might, however, plant the seed. There are obedience training classes held in many communities. In these classes, the owner enrolls along with his dog. The owner learns how to handle and control his dog at the same time the dog is being trained. These classes are not expensive—usually about ten dollars for ten lessons.

Having a dog obedience-trained doesn't mean that he will be less likely to bark or act protective, but the owner will be able to control him and thus make him behave.

And, incidentally, it is conceivable that some arrangement might be worked out with such a club and the utility company

in the area to have a class for servicemen on the matter of approaching dogs or handling obstreperous dogs. Familiarity with dogs and the handling of dogs helps a great deal in overcoming fear of strange dogs.

There appears recently to be a desire on the part of many dog owners to have their dogs be "watchdogs" similar to the attack dogs trained by the Army. This is a big mistake. Training a dog to be a watchdog is only for the professional trainer and a dog so trained can't be allowed to run loose. The house pet is fulfilling his role as a watchdog when he barks a warning.

When meeting a strange dog, let the dog make the advances. Many people are inclined to reach out to pat a dog on the head. Dogs often resent such familiarity. A dog gets acquainted by his nose, not by what he sees. Many a dog hates being touched unless he invites it. If a hand comes darting out at him, he doesn't know whether or not it's friendly. He hasn't had a chance to smell that hand or you, and his reaction may be to protect himself from what he doesn't understand.

If you stand still, the average dog will come up and start sniffing. If you are carrying something, keep it low so he can smell that, too. Any small object, a flashlight for example, can be kept in the pocket. Keep your hands at your sides; keep them down. The dog will probably sniff at them. Then a hand can be extended. One way is with the palm up, or it can be closed, palm down. Let him smell it; then scratch him under the chin and up under his ears.

Though a dog's vision isn't as keen as his other senses, his reaction to movement is highly developed. Dogs are suspicious of sudden, quick motions toward them. Speaking to a dog in a friendly, soothing tone plays a big part in making friends. The voice has a strong influence on all animals. The manner of speaking is as important as allowing a dog to get your identifying smell. It doesn't matter what you say as long as you use a low, conversational tone.

—Page 91

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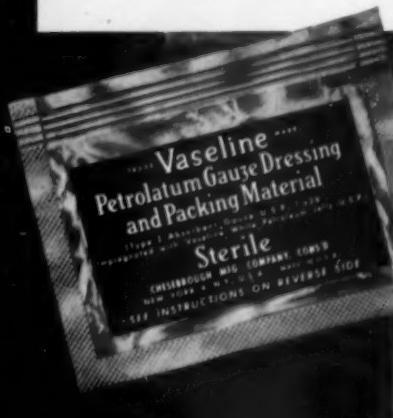
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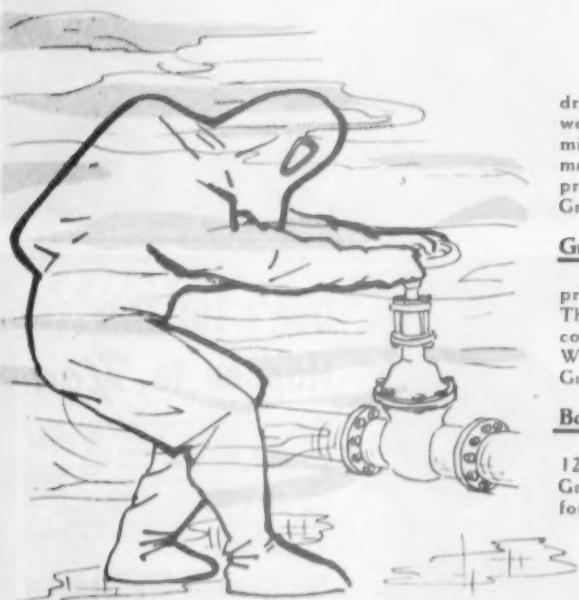


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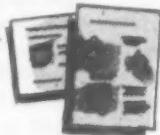
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Tragic accidents occur when children or grownups run from dogs in panic. There you have sudden movement, shrill voices and everything that excites a dog. It would be rare indeed for a dog to come up and bite you if you stand perfectly still and talk to him. Even dogs trained for Army and police work are trained to knock down the suspect and hold him there. They attack only if the person tries to escape or offers resistance.

If you ever have to get out of a spot where a dog comes up snarling and refuses to let you pass, even though you've exerted all your charm, keep talking to him quietly and at the same time back slowly away. There is the saying that a dog can "smell" the fact that you are afraid. When fear strikes, you can feel yourself break out in perspiration. There is no doubt that a dog can detect that ammonia-like odor, but just smelling your fear is not necessarily a message to attack you, and, indeed, your voice and manner with the dog can overcome your own fear.

The average dog will let you continue if you (1) stand still and give him time to smell you; (2) talk to him and continue talking as you walk straight ahead toward your destination.

There are some dogs who will let you enter a home, but they won't let you leave, as long as you are the only one in the house. That's not an unusual occurrence. You are perfectly safe as long as you stay, but don't try to leave. The only solution is to take the afternoon off and remain until someone comes home and rescues you.

People who raise dogs or have handled many dogs think very little of a dog bite. They often get nipped by a puppy, or in handling dogs under certain circumstances —one being breaking up fights among dogs in a kennel. They treat a bite like any other abrasion—wash it with soap (preferably a "kitchen" soap or green soap) and let it heal.

People who are not used to dogs have a terrific fear of a dog bite. Many think of rabies. It might be mentioned in this con-

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nnection that nearly 27,000 dog bites were reported in New York City last year. That is about a yearly average, but there has not been a single rabies case in humans in New York City in more than ten years.

There's many a bite that would not have happened if the person grabbed hadn't pulled away. A dog may close his jaws around an ankle, but if you keep your leg still and rigid, there's a good

chance that he won't sink in his teeth. If you jerk away, the skin is torn.

I was once sitting on a bench at a summer outing when a big dog came up and without any warning, grabbed my arm above the elbow in his teeth. I held my arm absolutely still and began to talk to him. His grasp relaxed.

Aside from mailmen, servicemen and others who must necessarily enter the grounds or house

where there are strange dogs, the people who most often get bitten by dogs are those who swoop on every dog they see with hugs and caresses (the dog has an innate dignity and resents sudden approaches from a stranger) and, second, those who are so afraid that they kick or strike at a strange dog.

But how do you protect yourself from the dog that comes up with obvious intent of attacking?

In El Paso, Texas, recently, after the deputy tax assessors had been bitten 20 times by dogs, the head tax collector ordered them to make their rounds armed with water pistols filled with ammonia.

Now a water pistol is a good weapon. Plain water will do, or water to which a little ammonia is added. Ammonia alone can blind a dog. The ideal use of a water pistol is in the hands of the owner as a training device. The power of a water pistol is that the sudden dash of water in the dog's face distracts him from his action, makes him hesitate and as far as he is concerned, the unpleasantness comes from some unseen force. Unlike kicking or striking at a dog, he doesn't associate the attack with you personally. Red pepper (hot cayenne pepper) thrown into a dog's face will have the same effect.

Much is said about wooing dogs with handouts of food. This might work in some cases. One housewife we know of plants a bit of choice food at her gate for the mailman to offer to the dog as he comes up the path.

If a ferocious dog actually attacks by jumping at you when you have nothing in your hand to strike or knock him down, you can protect your face and throat and have a weapon of sorts if you grab the elbow of each of your arms with the hand of the other so that your arms are in folded position, held out from your chest. Hold tightly and when the dog leaps, you can catch him under his front paws or his chin, much like an uppercut. Because he has his legs off the ground, he is off balance and can be thrown.

If he comes at you from either side, swing your bent arms sideways toward him. With a smaller dog who can't reach shoulder high



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in a jump, bring up one knee quickly and knock him over, but don't go off balance doing it.

Such tactics may stop a dog, or at least give you time to get away without a serious bite. A large dog that is vicious can only be restrained between the knees of a strong man. Even a very strong dog can't get away if he is clamped in a knee hold, but probably only a person adept at handling dogs would attempt it. To do this, grab the dog by the collar and twist it tight, back him into a corner, and at the same time squeeze him between your knees. This is a potent hold, a sort of full nelson, with which a man can strangle a dog.

It is doubtful that anyone on an ordinary round of duty would ever have to deal with such serious contingencies. The house dog who jumps at you rarely has sinister motives. It is usually a half-grown, undisciplined pup which has been used to roughhousing in this fashion.

Of course, it isn't pleasant and it is frightening to have a big dog leap upon you, no matter how good his intentions. If you throw your hands out he may try to grab at them playfully, but a frightened person doesn't always understand it's all in fun. If you yell he tries to lick your face. It's best to stand still and brace yourself so you won't be knocked down. If you can get hold of a collar, a good hold and a twist on it will bring him to the ground.

Suppose you are knocked down. Fold your arms and hold them over your face and lie still. Did you ever notice one dog attack another dog? Invariably, if the other dog is small or isn't a fighter, he will lie down and offer no resistance. In other words, he's defeated, and since he has given up, the other dog usually walks away, no longer interested.

We all know people who never seem to have trouble with strange dogs. It is said that if you really like dogs, dogs instinctively know it and like you.

It's difficult to tell anyone how not to be afraid of a strange dog that looks menacing, but holding the thought that he won't bite might have some effect. Even

people who are accustomed to handling dogs of all kinds get a chill up the spine when a strange dog comes up and looks as if he means business, but they know that the best thing to do is be calm, stand still and try to be unafraid.

People who know dogs well have a healthy respect for a strange dog. Dogs are truly wonderful creatures and they do reason and think. So if you show

respect for a dog that is doing what he believes to be his duty, the protection of his home, and try to get across that you mean no harm, nine times out of ten he'll respect you.

If you strike at a strange dog, he feels he has a right to strike back. If you run, you offer a challenge to him to chase.

If you scream, he becomes excited and may bite in nervousness or fear. If you rush toward him,

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reach out to him, or make quick sudden movements, he is suspicious. In other words, the best strategy is to let the dog adopt you.

Perhaps the best attitude to take with a strange dog is to follow this general rule:

Keep your head and heart up,
Your hands and feet down.
Give him time to make friends,
And speak in low tone.

Cases for Comment

—From page 12

apply to hernias that need to be repaired, whether or not they are actually repaired.

Considering the causes of such an injury, which could only be brought out in a proper and detailed accident investigation, I have several questions in mind. Was a proper job method established for doing the work which

resulted in the injury, and was the employee using this method? Was a proper tool provided to do the job and was the employee using the tool? Then, was supervision alert to see that proper methods and equipment were being used?

Nurse's Decision

On Friday afternoon a laborer was piling cartons of firebrick on a truck bed. In handling a carton he felt a pain in the small of his back. He reported to the plant nurse and was placed on disability assignment. He was regularly scheduled off the following two days and reported to the plant nurse on Monday morning at which time the nurse stated that he could perform his regular job.

Based on her observations of Friday afternoon and Monday morning the nurse stated that the injured would have been on disability assignment on Saturday had he been scheduled to work. In the absence of an attending physician the plant nurse makes decisions on disability assignments.

The employer raises the following questions:

1. In reference to paragraphs 3.7 of ASA Code Z16.1-1945 can "the decision of a physician engaged by or authorized by the employer to treat the injury" be interpreted to include a registered nurse engaged by the employer?

2. In the absence of observation of the injured on Saturday are the observations made on Friday and Monday by the nurse considered sufficient evidence for determining the degree of disability?

Decision. As to the first question, the decision of a registered nurse should not be substituted for that of a physician. Paragraph 3.7 of the code applies only when there is a question of doubt as to the degree of disability. If there is no doubt as to the degree of disability, then Paragraph 3.7 does not apply. The only one who can properly resolve the doubt is a medical doctor. As to the second question, it is reasonable to consider observations made on Friday and Monday in order to determine the degree of disability, even though the injured was not observed on Saturday.



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Comment. As a general rule, the medical profession places important limitations on actions or decisions to be taken by nurses. Even though some nurses may be qualified to make a decision, as in this case, it generally appears to be outside the realm of their duties and responsibilities.

As a general rule, recommendations of the authorized physician treating the injury should be decisive in determining the amount of time to be charged and the ability of the employee to return to work in cases of disabling injuries. This again points up the importance of familiarizing the company doctor with job requirements, environmental factors and any other situations which might bear on the doctor's decision in returning the man to work. Too often we receive the complaint that "if the doctor had been familiar with the type of work the employee was doing, he could have returned to the job much sooner."

Green Cross News

—From page 48

Council and cooperative agencies. M. R. "Bud" Darlington, managing director of the Inter-Industry Highway Safety Committee, was moderator. Honorable J. Caleb Boggs, Governor of Delaware, extended the official welcome to the young folks.

"Automatic Secretary"

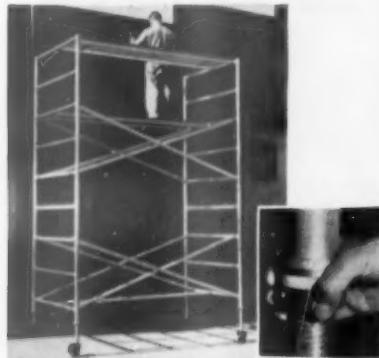
Mrs. Lovilla Lalor, energetic and efficient manager of the San Joaquin County Safety Council (Stockton, Calif.), is a busy lady. She works with several activity committees, writes publicity and assists in the work of four other safety councils in the county. She keeps minutes of all meetings, types and mails them; and stages a breakfast meeting of her Board of Directors every Wednesday.

Having no office help she is her own secretary, stenographer, bookkeeper, phone girl, and mail

clerk. Recently she installed a phone recording gadget that answers in an automatic response—in her voice—whenever a call comes in while she is out. Here is the way it works: Mrs. Lalor transcribes a brief message before she leaves, stating where she is and how long she expects to be gone. Then her voice continues: "After you hear the tone signal, please leave your name and phone number and I will call you as soon as I return." Here is a novel gadget recommended to those council managers who have no office staff and who feel, as Mrs. Lalor does, that to sell community safety, a manager must spend a lot of time out of the office meeting prospects.

A female shopper is a woman who can hurry through a department store aisle 18 inches wide without brushing against the piled-up glassware and then drive home and knock the doors off a 12-foot garage.

Aluminum Scaffolds . . . by The Patent Scaffolding Co.



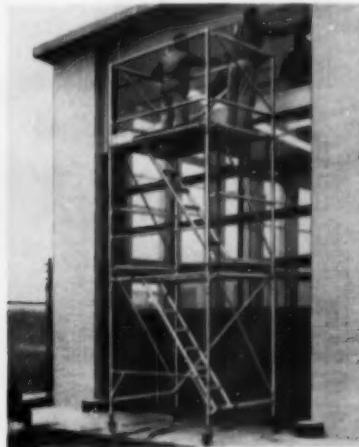
NEW 4'6"-WIDE LADDER SCAFFOLD

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Quotable Quotes

. . . From DR. J. L. ROSENSTEIN

No matter how fair an industrial organization may be, and regardless of good wages, fewer working hours, and all the modern industrial luxuries and benefits that may be provided for workers, an intelligent worker needs to get emotional satisfaction from his work or he will become maladjusted, unhappy, and inefficient.

* * *

Maladjustment means some kind of behavior which causes friction or conflict, either within the individual himself or between the individual and the society in which he must live, whether it be of a social or industrial type.

* * *

The fact that a person is maladjusted or cannot fit happily into one situation is no reason for believing he will be maladjusted in others.

* * *

The higher grade person learns more rapidly, retains better, and uses with greater facility the things that experience may teach him. That is why it is often more difficult to reeducate an apparently superior person who learned some highly undesirable pattern of behavior.

* * *

It is as easy for the person to learn undesirable behavior as it is to learn desirable behavior. The person just learns behavior.

* * *

Do not work with symptoms. Anger, fear, hatred, antagonism, insubordination, and sabotage are only symptoms of something wrong. Get at and deal with their causes.

* * *

Everything a person does has a history. Everything he thinks has a history. The way he thinks and does things has a history. The ways of thinking and doing were learned during the lifetime of a person.

* * *

A man is less likely to find fault with his own solution to a problem. Lead him to give you the solution you want him to give. Devise questions that will cause him to give the answers you want.

DR. J. L. ROSENSTEIN is Industrial Psychologist, University of Miami, Coral Gables, Fla., and formerly Professor in the Department of Management at Loyola University, Chicago. These excerpts are from his *One Day Course in Human Relations for Supervisors*.

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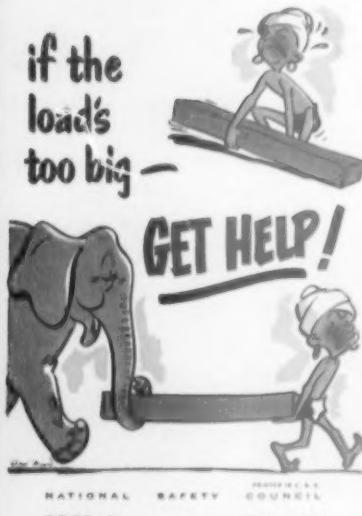
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0353-A

8½x11½

This new four color poster is illustrative of the 72 four color posters shown in the 1955 Poster Directory.



0365-C

25x38

Above new "C" poster, issued monthly, is indicative of the other two color posters—shown in one color on the following pages and in the 1955 Poster Directory.

Variety . . .

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Posters miniatured on this and the following pages are NEW—produced and shown for the first time. Excepting the Jumbo poster (left, upper), all will be in stock throughout 1955. Those posters shown in one color on the following two pages are actually printed in two or more colors.

For a more effective poster program: first make your selections from the brand new posters shown on these pages and then from the hundreds of illustrations in the 1955 Directory.

Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

Posters below are printed in two or more colors
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0357-B

17x23



0354-B

17x23



0360-A

8½x11½



0276-B

17x23



0335-A

8½x11½



0294-B

17x23



0332-A

8½x11½



0315-A

8½x11½



0358-A

8½x11½

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0362-B

17x23



0352-A

8½x11½



0348-A

8½x11½



0327-B

17x23



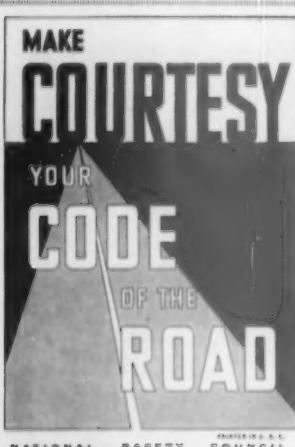
0326-B

17x23



0330-B

17x23



T-0100-C
T-0189-A

SAFETY COUNCIL
25x38
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T-0343-B

17x23



V-0347-A

8½x11½

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Ergonomics

—From page 21

signing engineers to follow. The highest degree of teamwork is required in order to develop this field fully.

The ultimate objective must be to place in the hands of engineers a set of principles and laws which they can incorporate into their regular practice just as they now draw upon a background of knowledge of the physical sciences. The way in which these laws are to be applied constitutes, of course, a major responsibility of engineers.

In recognition of the need for teamwork in the development of human engineering, British workers have formed the Ergonomics Research Society. Its purpose is to bring together biological and physical scientists who are concerned with the study of man at work and with the application of the principles of ergonomics to the design of work facilities and organization of work. A new society was deemed necessary since interests cut across many professional lines.

The Proposed Program

Since the ultimate application of ergonomic principles must rest with designing engineers, we believe that the development of this new branch of engineering specialization should be centered in an established engineering group; specifically, in The American Society of Mechanical Engineers. A primary objective from the beginning should be to identify for study those engineering problems in which human factors play a major role.

Engineers must take an active part in the consideration of research needs, in the design of research studies and in the practical application of findings from these studies to the solution of the human problems associated with and created by mechanization and other technological advances in industry.

Engineers will not, of course, take over the primary functions of physiologists, psychologists and other specialists in the parent fields, but they must be able to work directly with these other

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specialists to insure an understanding and wide acceptance of human engineering principles by engineering colleagues and to make sure that these principles receive primary consideration in design rather than in a secondary status after the physical and functional requirements are met.

To initiate this program it is proposed that the Society set up a working committee on Ergonomics to explore this field, to develop a body of principles, laws and data for use by designing engineers and to demonstrate the practical usefulness of this area of specialization in the solution of important human problems in industry.

This committee should include engineers representing different fields of concern: industrial engineering, time and motion study, methods engineering, machine-tool design, plant layout and building design, health and safety engineering.

Specialists from the fields of anatomy, physical anthropology, biomechanics and various branches of applied physiology and applied psychology should be invited to serve on the committee. The immediate objectives would be:

1. To define more sharply the nature of human problems which require attention.
2. To bring together existing information on human capabilities and limitations from the parent fields of biological and social science and show how this information can be translated into physical terms for use in engineering design.
3. To outline the needs for research and joint study of human problems arising out of mechanization in industry so as to establish the fields of ergonomics and human engineering on a firmer and broader basis.

Start New Research On Common Cold

AMERICAN INDUSTRY has enrolled in a fight with the common cold which costs the nation some \$5,000,000,000 each year in wages or time lost, decreased production and medical expenses.

Meeting recently at the Union League Club in New York to map out a campaign of renewed research into the cause and cure of the nation's most costly respir-

atory ailment, more than 50 top industrialists and bankers approved an initial \$500,000 budget, most of which is earmarked for scientific research under auspices of the Common Cold Foundation, a non-profit, industry-supported organization. No public appeal for funds will be made. The plan is for industry to assume responsibility for financing this activity.

Impetus for the program comes from the recent development of the Enders-Weller-Robbins tissue culture technique which appears to overcome a scientific road block that has hampered organized research into the cause and cure of the common cold.

Man has sought the cause and cure of the common cold for about 2,000 years, the last 40 years or so on an organized basis. The scientific road block that has continually hampered adequate research has been the lack of small animals for laboratory use. Other medical research can use mice, guinea pigs, rabbits and the like.

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Not so in research on the common cold. Only two animals are susceptible to common cold infection. These are men and the anthropoid apes. This has made laboratory research prohibitively expensive or presented other scientific difficulties.

The Enders-Weller-Robbins tissue culture technique, which offers new hope, was developed by Dr. John Franklin Enders of the Harvard University Medical School and his collaborators, Dr. Thomas H. Weller of the Harvard School of Public Health, and Dr. Frederick Robbins of the Western Reserve Medical School, Cleveland, Ohio. All three share this year's Nobel Prize for Medicine and Physiology, awarded October 21, 1954, for their accomplishments in the tissue culture field.

While the Enders-Weller-Robbins method has been largely aimed at polio research in the past, medical researchers have begun to put it to work on the common cold. Prior to the Enders-Weller-Robbins tissue culture method, virus could be grown successfully only in live monkeys. The virus obtained from infected monkeys was contaminated with monkey nerve tissue from which it could not be successfully separated. Any vaccine prepared from such contaminated virus might lead to severe damage of the recipient's brain.

The Enders method has not only made it possible to grow virus in the test tube on non-nervous tissue, but it also has provided a direct means for "seeing" the viruses by their effect on the bits of human or monkey tissue in the culture tubes. This new technique has revolutionized virus research. It gives virus the food it requires to develop and the air without which it could not live. The tissue thrives and can be inoculated with either polio or common cold virus when isolated. Under appropriate conditions, the virus multiplies on the tissue, giving common cold research scientists a long-needed tool with which to study the common respiratory infection.

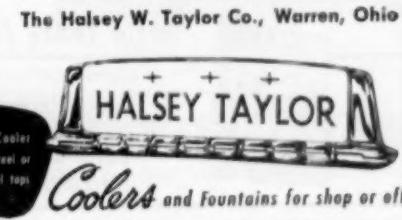
Common cold research also has suffered in the past because most people recover without serious

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after effects when a cold has run its course. Study of the common cold, has had to give way to emergency research on more serious diseases, such as cancer, heart disease and poliomyelitis. But the economic waste from the common cold has been a steady drain on the economy. It is blamed for five times as much loss of production man hours as all labor stoppages. In time of national emergency, such loss of national defense production could be a real calamity —as it was in World War II.

While industry, labor and the public have been paying a staggering annual bill because of the common cold, the end is not in sight as to future costs, according to Dr. Melvin N. Newquist, medical director of the Texas Company, and chairman, Medical Advisory Committee of the Common Cold Foundation.

"Inflation obviously increases the cost of the common cold," he said. "Furthermore, the enactment of state disability laws, the wider adoption and liberalization of sick benefits plans, including the trend toward reduction of the waiting period from seven days down to even no waiting period, all tend to convert sickness and absenteeism into dollars and cents, and more dollars and cents. Each year the nation's work force loses more than 150,000,000 days from work because of the common cold."

About \$425,000 of the Common Cold Foundation budget is earmarked for possible research projects at Johns Hopkins University, Baltimore; the University of Virginia, at Charlottesville, the University of Illinois Medical School at Chicago and Harvard University, Boston, according to Mr. McComas.

Viruses of common respiratory disease are the real core of the whole problem, according to Dr. Yale Kneeland, Jr., associate professor of medicine at Columbia University. They constitute the number one priority in any long term attack on colds and will, therefore, be the initial object of study supported by the Common Cold Foundation.

The Scientific Advisory Committee felt that one of its first

obligations was to obtain precise knowledge of the relevant investigative work now being done so the Common Cold Foundation could avoid duplication and select wisely those projects to be supported. Deans of all of the medical schools in the country have been contacted.

In addition to the four universities named, the Scientific Advisory Committee is now exploring possibilities of activating further projects at schools whose replies indicate that scientific work is being done in related fields or where trained scientific personnel is available, Dr. Kneeland said.

The common cold is troublesome the world over. In the United States, the North Central states report the largest number of colds each year. Chicago ranks as the city with the highest rate. In California, the records show that in August, 1954, 360,000 persons were disabled for one or more days by colds or allied respiratory diseases.

Waste Disposal Is Atomic Age Problem

DISPOSAL of radioactive wastes from atomic energy power plants will have to be done by more economical methods if atomic energy is to compete favorably in cost with other fuels, power engineers were told at the recent annual meeting of The American Society of Mechanical Engineers in New York.

The subject was presented in a paper by Abel Wolman, consultant, and Arthur E. Gorman, sanitary engineer, Atomic Energy Commission, Washington, D. C.

Anticipating an expansion in atomic energy power, the Atomic Energy Commission has placed research and development contracts with universities, private industry, the national laboratories and other federal agencies to evaluate waste-disposal methods.

The ideal disposal method for high-level radioactive wastes was said to be to the ground at or reasonably near the plant. Sub-surface disposal in a carefully selected area offers good possibili-

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ties for heat dissipation. Burial of radioactive wastes, particularly solids, is now widely practiced. For long-lived wastes serious consideration must be given to the possible effect of any burial practice on the natural resources of the area. Research on the selective absorption of radioactivity in various soils, and movement through them under various conditions, is in progress.

Abandoned mines, caves, deep oil and gas wells are being considered as means for lowering the costs of waste disposal. Since this cost is important in plant operation it must be considered when selecting a plant site.

Proposals for ocean disposal were considered impractical and too costly. Based on an estimate of world power consumption in 2000 A.D., it has been calculated that 6000 pounds of fission products would have to be disposed of daily. If the world's oceans were used for dilution, this would require five per cent of the total ocean volume, or 26 million cubic miles of water.

Irradiated air is discharged to the atmosphere through a stack more than 300 feet high at the Brookhaven National Laboratory. Extensive studies of atmospheric conditions at Brookhaven showed radioactivity well below permissible limits in air breathed by humans. The air in the vicinity is monitored while the reactor is operating, in order to guard against excessive radioactivity. Cooling air is pre-filtered to remove dusts that otherwise would become radioactive.

Single-pass cooling water from the Columbia River for the Hanford reactors has a high rate of decay of radioactivity during the first few hours. Consequently by holding it in basins for various periods it can be safely released into the river again. Evaporation has been used extensively to reduce the volume of liquid wastes of high and intermediate levels of radioactivity.

Some parents have difficulty in deciding on a name for the new baby, but others have rich relatives.

Session on Safety at AIEE Winter Meeting

An all-day session on electrical safety and fire protection will be held Tuesday, Feb. 1, at the Statler Hotel, New York, during the five-day Winter General Meeting of the American Institute of Electrical Engineers.

Scheduled for presentation are the following papers:

Bibliography of Electrical Safety—1930-53, by J. A. Gienger, Eastman Kodak Co., and R. L. Lloyd, National Bureau of Standards.

Practical Effects of Electricity on the Heart, by S. A. Talbot, John Hopkins Hospital.

Electric Defibrillation, by W. B. Kouwenhoven and W. R. Milnor, Johns Hopkins University.

The many Christmas greeting cards which came from Council friends all over the world this year were a source of deep gratification. They served as a seasonal reminder of the many ways in which you contribute by word and deed to the safety effort throughout the rest of the year.

This is to express my thanks for your kind and thoughtful holiday remembrance, and to extend to all of you my warmest and best wishes for a happy, safe 1955.

Ned H. Dearborn

★ ★ ★ ★ ★ ★ ★ ★

Field Current Sources for Electric Defibrillation, by P. L. Betz, Consolidated Gas, Electric Light and Power Co. of Baltimore.

Electrical Fire Loss Statistics, by C. L. Smith, National Fire Protection Association.

Prevention of Fires from Electrical Causes in Plant and Building Wiring, by W. H. Biester, Jr., Electro Construction Co.

Reduction of Fire Hazards in the Design and Application of Electric Motors, by Sol London, General Electric Co.

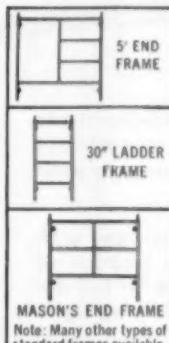
Preventing Fires from Electrical Causes in the Design and Manufacture of Appliances, by a Hotpoint Co. engineer.

Preventing Fires from Electrical Causes in the Design and Manufacture of Radio and Television Receivers, by H. T. Heaton, General Electric Co.

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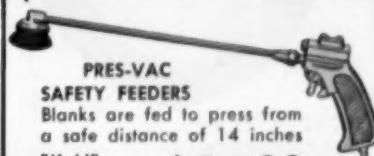
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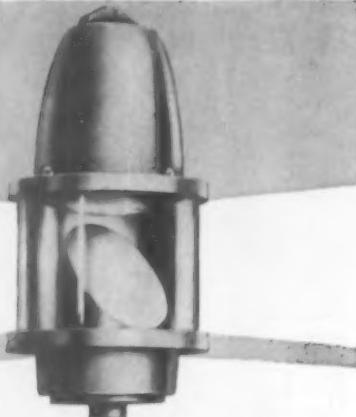
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S155

Obituary

THEODORE M. MATSON

THEODORE M. MATSON, director of the Yale Bureau of Highway Traffic, died suddenly December 15.

Professor Matson was widely known in the traffic engineering profession. He was traffic engineer in San Francisco, Kansas City and Philadelphia in the late 20's and early 30's. From 1933 to 1936 he was research associate, Bureau for Street Traffic Research, Harvard, and in 1937 joined the Bureau for Street Traffic Research, Yale University, later the Yale Bureau of Highway Traffic. Since 1943 he had been its director and professor.

One of the founders of the Institute of Traffic Engineers, Mr. Matson had recently been elected vice president. He was a director of ITE in 1939-1941 and again in 1951-53, serving as secretary-treasurer, 1953-54.

He served as a consultant to the engineering board, U. S. War Department, and headed committees of the National Defense Research Council and the Highway Research Board.

Mr. Matson took part in engineering panels during past Safety Congresses. He was a member of the Traffic and Transportation Conference of the National Safety Council from its inception.

GORDON C. GRAHAM

GORDON C. GRAHAM, supervisor of safety education in the Detroit, Mich., public schools, died Thanksgiving day following a stroke.

Mr. Graham had been in safety work for nearly 30 years and had been a member of the National Safety Council's Board of Directors since 1952.

While working his way through college he had suffered an occupational injury, the scars of which he carried throughout his life. It was this experience that did much to influence his choice of a career.

Upon graduation from the University of Michigan he entered

safety work with Ryerson Steel Company. Later he was associated with Packard Motor Company and the Detroit Industrial Safety Council.

In 1928 Mr. Graham was employed as supervisor of safety education by the Detroit public schools and held this position until his death, except for two years when he was a field representative for the National Safety Council.

Mr. Graham's work brought Detroit to the forefront in safety education. During World War II he took on the added duties of supervising safety in the vocational training program for war production workers.

He was a member of the National Safety Council's Schools and College Conference from its organization and held numerous other offices. He was a member of the NSC-American Vocational Association Safety Committee, the School Shop Safety Services Committee, the National Com-

mittee on Safety Education of the National Education Association, and the President's Highway and Occupational Safety Conferences.

Artificial Eyes Behind the Iron Curtain

A black market in artificial eyes is helping alleviate the shortage of this item in Red-run Poland, according to Radio Free Europe, quoted by *Optical Journal-Review*.

RFE, which is supported by public contributions to the Crusade for Freedom, says Polish sailors visiting foreign ports buy artificial eyes at \$2 each and resell them in Poland for \$20 to \$35.

A recent visitor to Poland, says RFE, revealed that he tried in vain to replace his artificial eye in several Polish cities, including Warsaw. Comfortable ones in the right color were practically unavailable. Their manufacture has been ignored under communism.

The demand for artificial eyes, says Crusade for Freedom, may well be due to the high industrial accident rate caused by Communist pressure for production without safety precautions.

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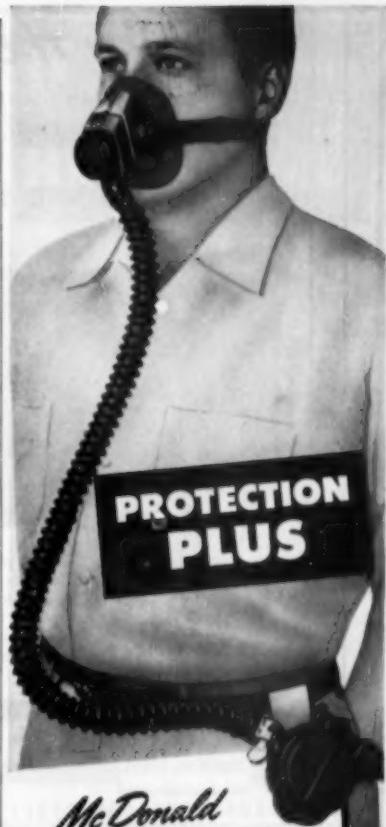
Autobiography of An Old Safety Record

I'm an old safety record: 128 days, 526,632 man-hours without a lost-time accident. I was established by the employees of the Byers Plant.

From December 23, 1953, when I started to exist, to May 4, 1954, my life was a happy one. But on May 4 an accident occurred and halted my rise to the top achievement of 1,000,000 man-hours without a lost-time accident.

The only thing left for me will be the pleasures of thinking back over our experiences. How day by day, week by week, month by month, I grew bigger and bigger. How the management, every superintendent, assistant superintendent, foreman, supervisor and employee worked hard to make me big.

Daily from everybody's lips came the words of protection: Be careful, work safely, help each other, don't take unnecessary



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Approved for protection over prolonged periods against harmful or objectionable atmospheres containing welding or cutting fumes, paint spray vapors, fumes from burning metals and toxic dust.

Dustfoe facepiece cushion provides a comfortable gas-tight fit with a minimum of adjustment — can be worn under welding helmet.

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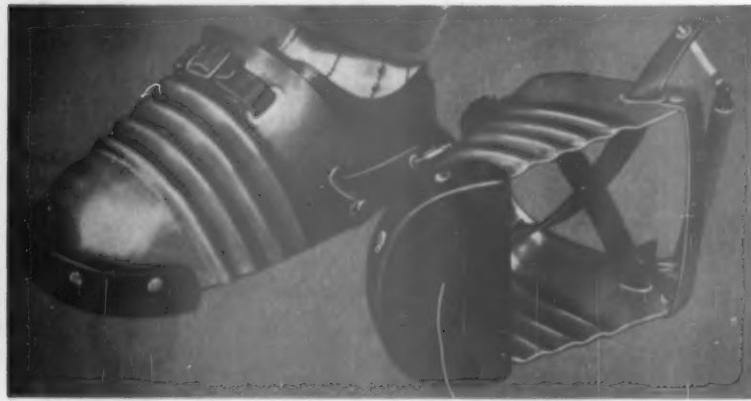
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chances, be sure you're safe.

Ah, how good this sounded to me! I admired their enthusiasm, their devotion, their urge to make me a million man-hour record. The employees at the Byers plant will not give up trying to achieve their goal. They will succeed.

In memory I will remain with them a short time, but soon I will be forgotten. Another record will take my place—bigger and greater. And when they raise the banner, when the goal is achieved, I'll sit back and wish it were me.

(The above, contributed by Frank T. Sawester, safety director for A. M. Byers Company, Pittsburgh, was circulated as a mimeographed bulletin. At the top of the page was a sketch similar to that used with *The Autobiography of a Safety Engineer* each month in NATIONAL SAFETY NEWS.)

Take Care of Executives, Doctor Urges

Stockholders should insist that their company take as good care of its management personnel as it does of its machines.

That is the opinion of Dr. Rex H. Wilson, medical director of the B. F. Goodrich Company, who contends that the drive and stamina needed for vigorous industrial leadership require both a healthy body and a healthy mind.

Addressing a group of Akron businessmen recently, Dr. Wilson said:

"A human being responds to care at least as well as a machine. To plan the future of a person without finding out what his physical abilities are is somewhat like buying an automobile without seeing if it has a motor."

The health of executive personnel is just as important to a growing, progressive company, pointed out Dr. Wilson, as the health of its rank-and-file working men and women.

"While many industries offer employees liberal health and welfare insurance plans, health is primarily an individual responsibility," Dr. Wilson said. "Industry should by counsel and education urge employees to take care of themselves . . . but it should not usurp the place of the family physician in the lives of its employees."

For Those Who Employ Young People

The Youth You Supervise is the title of a booklet recently issued by the Bureau of Labor Standards, U. S. Department of Labor. An important section of the booklet is devoted to the relationship between safety and supervision.

Each year some 1,500,000 young workers take their first jobs in industry and their experiences when starting work will have an important influence on their future careers as workers and as citizens.

The booklet points out that young workers need more guidance in safety measures than the older personnel. And since he is anxious to make good he is usually far more receptive to safety instruction than he will be when well established in the job.

A limited number of free copies are available while the supply lasts. Quantities may be obtained from the Superintendent of Documents, Washington 25, D. C., at 10 cents a copy or \$7.50 a hundred.

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...the best and safest method
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he doesn't touch the patient!

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Doctors agree that certain basic conditions are present in all burn cases. The "first aider" is qualified only to deal with the first three: Relieve Pain, Prevent Infection, Treat Shock. Spraying burns does this best. And the MSCo assortment of Burn Spray Kits is the largest ever offered: Americaine or Kip Antiseptic Oil in either compact Unit-Type Packets with Pressure Cartridge Spray or Complete Burn Spray Kits with Aerosol Dispensers; Foille and Hydrosulphosol Burn Spray Kits; Fire Department Kits. MSCo also supplies all standard burn ointments in unit form for first aid kits. See your MSCo distributor for a demonstration or write for details.



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National Safety News, January, 1955

The President's Medal

Awards made by the National Safety Council for successful application of artificial respiration

MICHAEL PERRON, welder, Canadian Industries Limited, Parry Sound, Ontario—drowning.

WILLIAM F. OESER, clerk, Corps of Engineers, Canton Project, Canton, Oklahoma—drowning.

DARYL C. MYERS, subway inspector, The Pacific Telephone & Telegraph Co., Burbank, Calif.—suspended respiration due to convulsions.

Louis H. Wood, splicer, The Pacific Telephone & Telegraph Co., Sacramento, Calif.—suspended respiration due to heart attack.

JOHN D. HODGES, foreman, Northwestern Bell Telephone Co., Omaha, Neb.—electric shock.

State, Community, Plant

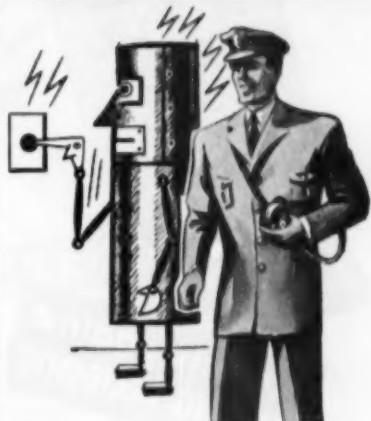
—From page 35

many projects which would create hazards later on, are thoroughly discussed prior to the use of such materials or equipment.

We try to encourage local councils to handle all details of the campaigns, such as mailing out the monthly reports, recording the information received on such reports, and other office details. We have found there is a greater local interest when handled this way. For those communities that cannot support a full time person, we do, in some instances, assist the council with a monthly grant to cover part of the services of an employee in their organization. In other campaigns, the entire clerical work is handled by a girl in our central office who maintains files for the various campaigns. All state-wide campaigns are handled through the central office.

In summarizing, we can recommend to other state agencies and governmental bodies, this type of safety promotion. It has proven its worth over many years of actual experience. It is nothing new but only a modernization of

IT sounds the alarm
but
HE prevents trouble



What won't they think of next!—but one thing is certain . . . no mechanical device, no matter how ingenious, can replace a watchman. Sure, a device can sound the alarm, but a watchman can prevent trouble before it starts.

Your trained watchman, who is supervised by a DETEX GUARDSMAN watchclock system, averts disaster scores of times that you don't even know about. He removes dangerous waste material, smells smoke, traces escaping fumes, opens a sprinkler valve some one shut by mistake—or by malicious mischief.

Day and night, weekends and holidays, your GUARDSMAN-supervised watchman is exercising *human judgment* in your behalf. The GUARDSMAN saves you money in supervisors' overtime, cuts your insurance premiums. If your watchclock is more than five years old, it is urgent that you modernize with a GUARDSMAN.

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Bulk and Package Plants, Cleveland, O., Jersey City, N.J.
Memphis, Tenn. Correspondence: Pa.

the principles of self preservation in safety that have been handed down to us from the beginning of our great state. I believe it can all be summarized by quoting an inscription in the lobby of the Ohio State Library:

And so Ohio has grown from a primitive wilderness and a few scattered settlers to a teeming community of homes, farms and factories — fourth among the states: but with the same forward looking thought of human happiness and welfare which marked her beginning and is still the guiding star of her government.

Safety Through Standards

—From page 23

There is much we must do to develop better standards to insure safety at the point of operation.

While we have made very effective progress in development of safety standards in the production and use of electricity, new applications of electrical energy pose new problems in safety standardization in that field.

In the field of occupational health and safety we have many problems. For example, I continually run into situations where carbon tetrachloride is used freely, with little or no regard for its toxic effect, for cleaning parts by hand.

Trichlorethene is another chlorinated solvent used extensively in industry for metal cleaning operations and is another bad actor. When used in the vicinity of welding operations, the fumes break down into phosgene, a deadly gas. Also if inhaled in quantities in excess of the maximum allowable concentration, it affects the nervous system.

The safety standards work of The American Society of Safety Engineers is delegated to a Safety Standards Committee. The chairman of the Committee is a member of the Society's Executive Committee and a representative of the Society on the American Standards Safety Standards Board. This Committee maintains supervisory control over all standards sponsored or cosponsored by the Society and develops new projects that warrant ASSE sponsorship.

The Committee's Chairman appoints Society representatives and alternates, as independent specialists, to all standards projects that warrant ASSE participation; he provides guidance for these representatives when necessary.

In the field of research the Society has been very active. As the Engineering Section of the National Safety Council, the Society had the responsibility for carrying through the Council's Engineering Research projects. When we became an independent organization, we continued to develop appropriate research projects for the Council, and more recently we decided to enlarge the scope of this research effort on our own behalf.

Research projects which have been completed in recent years include the study of plastics for eye protection. In this research the characteristics and properties of various plastics were evaluated for possible use in goggles, spectacles, and other eye and face protection. Research on safety

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campaign against

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by adding to your present procedure
a simple accident test for determining intoxication.



The Harger Drunkometer, used nationally in industry, is the oldest and most widely used of the breath methods.

Write today for information and list of successful users.

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RED BANK NEW JERSEY

belts, harness and accessories involved some very fundamental work in body mechanics and a study of the effect on the body of the rapid deceleration caused by belts and harnesses during a fall. Research has also been done on methods of obtaining and tabulating data pertaining to actual cost of industrial accidents.

Future projects under consideration by the Research Committee are: further research on safety shoes, wire rope testing, a possible new method of measuring gas and vapor concentrations, and electrostatic potentials created by flowing fluids.

When we look at the job ahead of us, our past accomplishments seem insignificant. As a Society we recognize the need for standards and we feel proud that we can ally ourselves with the other organizations in the development of standards for safety.

Field to Warehouse

—From page 31

top management, the supervisory force, mechanics, technicians and laborers all sit down together and "break bread and sound off."

Of course, there are safety problems to be dealt with almost weekly, but as conditions are brought to light, they are quickly worked out between management and the departments involved. As a result of these efforts, Godchaux Sugars enjoys the distinction of now having an accident frequency rate of 5.30 which is far below the national average of 14.7. Latest figures indicate that their disabling injuries have been reduced by one-third during the past year, and their non-disabling injuries have been reduced by 40 percent for the same period.

A favorable accident experience has not slowed down the interest of management, for it has recently inaugurated a departmental contest which provides for the awarding of a trophy to the department that shows the greatest improvement in its accident record and another trophy to the department that has the least number of accidents. So, every phase of the program is pushed to the limit; safety shoes



When load limit is exceeded, Dyna-Switch trips a sensitive micro-switch which may be connected to a warning bell or light. If Dyna-Switch is connected into the motor, the overload automatically cuts motor out, and load must be returned to floor and surplus weight removed before pickup can be completed.

Top working range is 20,000 lbs. Set at factory for any desired cutout point, but can also be re-set in the field if working conditions change. Low in cost—always on guard. Write or wire today for illustrated bulletin.

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The illustration shows a pair of M&M Rail Clamps being applied to a rail track. The clamps are large, heavy-duty mechanical devices designed to grip the rail securely. The text "M & M RAIL CLAMPS" is displayed prominently next to the image.

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the FINEST eye protection

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Cover Goggles
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502 Chippers and
Grinders Cover Goggles,
clear plastic with
perforated side shields

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EyeGard "IMPERIAL" goggles are recognized as the finest made for comfort and protection . . . yet they are priced to save you money! Six styles — Cover-all and Regular. Write now for literature and prices.

- Uses standard 50 mm round lenses
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Division of The Baudot Oxygen

CLEVELAND 14, OHIO
Company, Cleveland, Ohio

are made available as well as protective clothing and equipment. Additional training is provided in certain work. All of these features are stressed continuously.

Concerning safety, the management of Godchaux Sugars is a good example of the American spirit of investing time and money to save lives in industry through safety education and training. It is their belief that every life is worth saving, and so they have made "Safety, not Solace" their slogan for Safety in Sugar Production.

Safety's 14 Points

—From page 74

tices. It calls for a comprehensive inspection system, ranging all the way from our central safety staff, which makes general reviews of the program, down to the man on the job, who is expected to keep a careful eye on tools or equipment at all times and to report potential hazards at once.

Since superstition has no place in a safety program, I have no hesitation in offering Point 13. It is the requirement that all accidents be promptly reported.

This is not so we can show the Safety Council how good—or how bad—we are through accident statistics. We do it so that we can take swift action to clear up real or potential trouble spots. The incidence of certain types of accident, the plant areas where they occur, the kinds of jobs on which accidents occur, all help to provide us with a sensitive safety barometer. And unlike the conventional weather barometer, they give us information we are able to do something about. Given accurate information, we can make our own safety climate.

The final point is publicity: we try to talk safety through all the media at our command. Safety posters and displays, both simple and elaborate, are used to good effect. Such devices as the "days-without-a-lost-time-accident" board help to arouse employee interest and enthusiasm. Plant newspapers are extensively used. At Ford each issue of every employee newspaper—and we have


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Super-Safe grip creates confidence, speeds work — handles wet slippery objects as if dry.

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Quality Gloves for 35 Years



30 of them—contains at least one article on safety. There are also many excellent motion pictures on safety which are widely and effectively used.

So much for the Ford Fourteen-Point Safety Program. Many of the points may sound very familiar. Since they may be regarded as our common property in the field of industrial safety, I urge that we think them over carefully to see whether many of them might not be equally or partially adaptable to other safety areas.

A few examples occur to me offhand. I have mentioned our progress in industrial safety. One reason, it seems to me, is that we know exactly where we stand with respect to the law. While workmen's compensation laws are not identical in every state, there is only one law for each state. We know what our liability is, and we know that liability is the same throughout the state.

Compare this situation with the near-chaos prevailing in the field

of traffic safety. Not only are there wide variations in the traffic code between states, but local communities are also deeply involved. The upshot is that within a single state traffic rules and regulations and methods of enforcement overlap and even conflict with each other. The result—for the poor motorist and the safety expert alike—is utter confusion.

I believe that *uniformity*, the establishment of common ground rules, is one of our greatest and most urgent needs in this area. Until we have some semblance of uniformity, we will only be nibbling at the edges of the problem of safety on the American road.

Or take the problem of reporting, which, as I said, has given us an excellent safety barometer in industry. Let's look at the reporting of automobile accidents for a moment. Most of the nationwide accident statistics put out by the National Safety Council are based on data from fewer than 30 states. From these, the Council "projects" the national figures. Statistics from the other states are non-existent or unreliable so far as the over-all calculations are concerned.

The National Safety Council is doing an excellent job with the inadequate statistics it receives. But in the case of injuries arising out of automobile accidents, they have to take the number of deaths and multiply by 35, a figure which in their judgment represents the current ratio of injuries to deaths. They just can't gather as accurate data in the field of automotive safety as they get from other areas such as industrial safety.

We can't fight this battle blindfolded. Until we have a clear picture of the size and specifications of the adversary, we cannot hope to lick him. We learned this lesson in industrial safety; it seems equally applicable to traffic safety.

One of the points I made earlier was that employees engaged in operations which might be hazardous to others had to have special safety permits. These are analogous to the motor vehicle operator's permit issued by the states—but with an important dif-



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Because of Blind Corners



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• Mounted at a height of 8 to 10 feet, Klear-Vu Safety Mirrors clearly reflect the movement of oncoming floor traffic from opposite direction—thereby removing principal cause for collisions.

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ference. The crane operator, for example, must undergo periodic physical and technical tests in order to keep his permit. The automobile driver gets his once and for all, although in some cases the state will close the barn door by taking away his license or requiring a re-examination after he has been in a serious accident.

Now I realize that the periodic re-examination of all drivers would present great difficulties—there are some 66 million of them on the roads today. But I believe that some practical program under which drivers could be re-examined at intervals, say, of five or ten years can—and someday will—be worked out.

In the meantime, there are a number of things we can do in the way of education—continuing education—and testing. During the last school year, some 325-thousand high school students received a complete driver-training course. This is a sizable figure, but it still represents less than 20 per cent of total eligible high school enrollment. So I believe we can expand and extend our training of new drivers.

Continuing education will have to come largely through the mass media, because of the tremendous numbers of people involved. We have just begun to scratch the surface with safe-driving films, booklets, newspaper and magazine articles, posters and billboards. We in industry, for example, can encourage our employees to study safe-driving practices and to get professional instruction if they are just learning.

As for testing, I believe the standards could be raised considerably without putting an intolerable burden on the examiners or the public purse. There are still some states where you can get an operator's license simply by slipping 50 cents into an envelope and mailing it off to the state capital. There is one state which not only does not license ordinary drivers, but doesn't even require permits for operators of public vehicles!

Finally, let's consider for a moment the matter of inspection, which is so integral a part of

our industrial safety program. Periodic inspection of motor vehicles is required in only 14 states, although in eight others it is provided for under city ordinances. Periodic inspection of automobiles will pay the same dividends, in terms of human lives and dollars and cents, that our rigid inspection systems have paid in the factories.

I might add a word of caution: a comprehensive and effective inspection program cannot be developed overnight. I am told that one southern state tried it, with disastrous results. Highway officials went to Pennsylvania to look over that state's vehicle system, and then went back and attempted to reproduce it lock, stock and barrel.

What they forgot was that the Pennsylvania system had been gradually built up and strengthened over a twenty-year period. The first few tests in the southern state, under Pennsylvania standards, indicated that an alarming percentage of vehicles would have to go into dry-dock or onto the junk heap. It was a repair-man's dream of paradise, but the public wouldn't stand for it. So the whole inspection system had to be re-evaluated.

A new inspection system should be set up with relatively modest standards. These can be raised, year by year, and new requirements added until the desired level of performance is reached.

I am well aware that there are experts at work on the problem. The President's Action Committee for Traffic Safety is perhaps the most illustrious of these groups, but there are many others which have made and are making valuable contributions. My purpose here is merely to underscore the similarity between the problems encountered in traffic safety and those that have been met—and solved—in the field of industrial safety.

I would like to suggest that you, as industrial safety engineers, have a special competence, and, as good citizens, you have a special responsibility to bring that competence to bear upon a real and urgent civic problem—traffic safety.

Calendar Contest Winners for November

First prize in the National Safety Council's Safety Calendar Contest goes this month to Miss Brenda Bronson, whose father is a locomotive engineer for the Oliver Iron Mining Div., United States Steel Corp., Duluth, Minn. The theme in this contest was stop accidents—two trips may be shorter than one. Miss Bronson's line was adjudged the best of all those submitted. It was:

For "can't see" is as bad as "don't care."

Second prize went to John Fuller, Philco Corp., Philadelphia, Pa., for this line:

Here's one trick a stunt man wouldn't dare.

Third prize was awarded to Charles Firing, Texas Co., El Paso, Texas, for the following line:

Stepping down stairs without a down-stare.

Thirty \$5 awards were issued to:

Mrs. Stephen J. Pettovar, U. S. Atomic Energy Commission, Washington, D. C.



*Jane saves steps for herself everywhere,
Even carrying a load down the stair.
But this trip may soon show
That she's loaded with woe*

Mrs. Henry J. Jackson, American Brake Shoe Co., Birmingham, Ala.

W. F. Krupp, Jones & Laughlin Steel Co., Cleveland, Ohio.

Mrs. Edith E. Morgan, Blairstown, N. J. (Individual Member).

George Gambler, Bethlehem Steel Co., Bethlehem, Pa.

Mrs. Esther LaFollette, Home Telephone and Telegraph Co., Ft. Wayne, Ind.

Marian L. King, Universal Atlas Cement Co., Universal, Pa.

Lois McCarthy, Kraft Foods Co., Pocatello, Idaho.

Mrs. Lois R. Kodalen, Dodson, Mont. (Individual Member).

Walter E. Baldwin, J. I. Case Co., Rock Island, Ill.

Agnes C. Lomax, Fall River, Mass. (Individual Member).

Mrs. G. L. Miller, Ft. Worth & Denver Railway, Ft. Worth, Texas.

Mrs. Jo Ruth Campbell, E. I. du Pont de Nemours & Co., Victoria, Texas.

Mrs. Ross Spencer, Texas-New Mexico Pipe Line Co., Midland, Texas.

Mrs. Anna M. Cowles, Proctor & Gamble Mfg. Co., Long Beach, Calif.

Sgt. John Olson, Everett Police Dept., Everett, Wash.

Roger W. Dana, Kimberly-Clark Corp., Neenah, Wis.

H. T. Orsborn, Elgin Academy, Elgin, Ill.

Mrs. Mildred S. George, Eli Lilly & Co., Indianapolis, Ind.

T. A. Brennan, Chrysler Corp., Detroit, Mich. —Next page

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Minimum 8 years accident prevention experience—4 years with insurance carrier, balance in drilling or oil field operations. Degree or equivalent training plus familiarity with oil handling codes required. Salary commensurate with training and experience.

Write giving full particulars regarding personal history and work experience. Please include telephone number.

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2 Can be adjusted to over-all outside width of $\frac{3}{4}$ inches, accommodating even the largest prescription glasses.

3 Four light-proof ventilators in the frame plus four light-proof ventilating ducts in the eye cups, eight in all for each eye cup, continually supply an abundance of ventilation.

4 No rivets or nose connectors to pull loose. Rolled edges for utmost comfort. Regulation 50 m/m replaceable lenses. Weight without lenses is $\frac{1}{2}$ ounces. Each pair individually boxed.

The companion No. 612 Jumbo Industrial Goggles are of the same style and appearance but molded from clear plastic for wide vision. They also have the conventional screen ventilators.

Most dealers carry both of these goggles in stock and can make immediate delivery.

If you have never used these goggles, we suggest that you write us for a sample pair of each on memo for test purposes. If after 30 days trial you do not find them thoroughly satisfactory, you can return them for credit.

Mrs. Earl Boyle, Buckeye Steel Castings Co., Columbus, Ohio.

Edward Barnes, B. F. Goodrich Co., Akron, Ohio.

Eleanor E. Fuller, General Mills, Buffalo, N. Y.

John D. Howard, American Telephone & Telegraph Co., New York, N. Y.

Herbert K. Croll, Electro Metallurgical Co., Niagara Falls, N. Y.

Mrs. Betty M. Davis, San Gabriel, Calif. (Individual Member).

Olive Poulton, The Steel Company of Canada, Ltd., Hamilton, Ontario, Canada.

Joe Slosarcik, Socony-Vacuum Oil Co., Inc., East Chicago, Ind.

Lawrence Reinhard, Alpha Portland Cement Co., LaSalle, Ill.

Mrs. J. E. Morris, The Steel Company of Canada, Ltd., Hamilton, Ontario, Canada.

energy industry started safely "at the expense of considerable investments in radiation protection."

General standards of protection and limits of exposure had to be set on the basis of experience with X-rays and radium. Such standards included wide safety margins to allow for lack of detailed knowledge.

However, Hanford practices provide for even greater safety, Dr. Parker explained. For example, the National Committee on Radiation Protection (of which he is a member) recommends that no individual be exposed to more than 15 roentgens of gamma radiation a year. At Hanford, however, the limit is only three roentgens, with actual average exposure per person running only a fraction of this amount.

Even the highest annual exposures at Hanford have been under three roentgens. And there never has been a case of serious over-exposure there, Dr. Parker added.

Radiation Hazards Can Be Controlled

Radiation hazards during the next decade resulting from widespread use of radioactive materials for peaceful purposes in industry will be controllable on any foreseeable scale, according to a General Electric Company scientist who is one of the country's foremost experts on radiation.

Dr. Herbert M. Parker, GE's director of radiological sciences at the Atomic Energy Commission's Hanford Atomic Energy Plant at Richland, Wash., said that the amount of radiation to be controlled will be millions or tens of millions of times that produced by the world's supply of radium.

Speaking to the Radiological Society of North America, Dr. Parker pointed out that persons working in power plants or factories using radioactive materials can easily be protected from external radiation. Harm from radioactive materials deposited inside the bodies of human beings also can be prevented, but may mean the imposition of excessively high safety standards until certain unknowns have been solved.

Dr. Parker, who has been concerned with radiation protection since the beginning of the nation's atomic production efforts some 12 years ago, said that the atomic



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*“...business helps itself
by promoting thrift
among its own people.”*

EDWARD C. BALTZ

*President
Perpetual Building Association
Washington, D. C.*

“Expanding the regular sales of U. S. Savings Bonds is essential to the continued success of our Government's sound money policy. Savings Bonds help people build security for themselves and stability for the nation's economy. A reserve in Bonds gives them the assurance to spend current income on homes, cars and other substantial purchases. Meanwhile, regular Bond buying goes on adding to their future buying power. Thus business helps itself by promoting thrift among its own people. The surest way to encourage an employee to save regularly right where he works is to sign him up on the Payroll Savings Plan.”

Let's point up this statement by Mr. Baltz, head of one of the nation's outstanding thrift institutions and volunteer chairman of the District of Columbia Savings Bond Committee, with a few facts and figures:

• currently, more than 45,000 companies, large and small, representing every classification of industry and business, are encouraging national thrift through the Payroll Savings Plan.

• every month, 8,500,000 Payroll Savers in these 45,000 companies invest more than \$160,000,000 in Savings Bonds.

• largely as the result of employer-encouraged thrift the cash value of Savings Bonds held by individuals on July 31, 1954, totaled more than 37.5 billion dollars.

• never before has America had such a reserve of future purchasing power.

• invested in America, these 37.5 billion dollars in Savings Bonds Dollars are a most effective check on inflation and a very important contribution to economic stability and a sound dollar.

A million new Payroll Savers by the end of 1954! That's the goal of those who believe that what is good for Americans is good for business. To do your part in reaching this objective, phone, wire or write today to Savings Bonds Division, U. S. Treasury Department, Washington, D. C. Your State Director, U. S. Treasury Department, will show you how easy it is to build a successful Payroll Savings Plan.

The United States Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

NATIONAL SAFETY COUNCIL



**"We've reduced our
scrubbing time from 70 to 7 man-hours
... and our floors have never before been so clean!"**

— says Foreman of
BURNY BROS. BAKERY, CHICAGO



Garage and stockroom floors in Burny Bros. large, modern bakery get daily scrubbing with a Job-Fitted Combination Scrubber-Vac and Setol Cleanser

THEY'RE an unbeatable team to speed the cleaning of oily, greasy floors. Here's why: A Scrubber-Vac completely mechanizes scrubbing. It applies the cleanser, scrubs, flushes if required, and damp-dries the floor—all in one operation! Job-fitted to specific needs, a Scrubber-Vac provides the maximum brush coverage consistent with the area and arrangement of the floors. Its teammate, Setol Cleanser, is specially designed for the greater speed of combination-machine-scrubbing . . . emulsifies grimy oil and grease instantaneously for fast, thorough removal by the machine's powerful vac. Moreover, Setol retains its strength longer than average alkaline cleansers. This, too, speeds the cleaning process . . . saves on materials . . . and cuts operating

time of the machine, which in turn reduces labor costs. The Scrubber-Vac shown above is Finnell's 213P, for heavy duty scrubbing of large-area floors. It has a 26-inch brush spread, and is capable of cleaning up to 8,750 sq. ft. per hour! Finnell makes sizes for small, vast, and intermediate operations (available on lease or purchase plan) . . . also a full line of fast-acting cleansers. In fact, Finnell makes everything for floor care! Find out what you would save with combination-machine-scrubbing. For demonstration, consultation, or literature, phone or write nearest Finnell Branch or Finnell System, Inc., 2201 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines



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IN ALL
PRINCIPAL
CITIES**

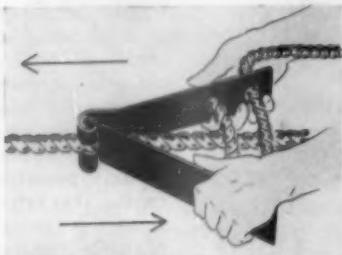
NEW SAFETY EQUIPMENT

Further information on these new products may be obtained by writing direct to the manufacturer or by circling the corresponding item number on the Reader Service Postcard.



Rope Gripping Device

This new safety device has been designed for men who work in high places. Called the Safe-Hi Rope Grab, this metal gripping device can be used in any situation where a $\frac{3}{4}$ inch vertical rope can be hung through the working area. Its special design acts to absorb the shock of a fall, without weakening itself or the lifeline on which it is attached. The rope is secured by detaching the two metal strips from



each other at the top and curved joints, allowing the rope to be slipped between the strips into the rope hole provided, and re-attaching the strips at the joints. The rope grab can also be moved up or down by this easy method.

The rope cannot be knocked off accidentally. It weighs only $2\frac{1}{2}$ pounds including lifeline and belt. It has been especially designed for men working on scaffolding, swinging stages, structural steel, or other types of work where men are exposed to falls.

Rose Manufacturing Co., Dept. E., 2700 W. Barberly Place, Denver, Colo. (Item 1)

Sticker for Hard Hats

This new safety helmet sticker is available with any design or wording in various sizes and shapes. It is a self-sticking sign, and can be applied without moistening to any type of helmet.

Because the signs are worn on the helmets, the safety message is

at the eye level of other workers—a constant reminder to work safely.



The sign in the illustration carries the wording, "Work Safely" in the green circle surrounded by a company's trademark. The signs come mounted on handy dispenser cards for quick and simple application.

W. H. Brady Co., 727 W. Glendale Ave., Milwaukee 12, Wis. (Item 2)

Automatic "Shut-Off" Device

Identified as Model TGS 150, and called the Silent Sentry, this compact safety device will stop or change a machine or operation immediately if a person moves into the protected area. It may be used on all types of automatic machine tools and equipment, power presses and belt line assembly systems having cutting blades, inrunning rolls, ham-



mers, drills, and similar mechanisms.

Operators are always certain of protection for if the power source or

any internal part of the Silent Sentry should fail, machinery will stop immediately and remain stopped until the trouble is remedied. The device is antenna equipped, the antenna being used to form the sensitivity pattern about operating machinery. The pattern may be set to safeguard a limited or a large area, and sensitivity of the antenna can be adjusted so that a body approaching to within 12 inches of the "pick-up" plate will actuate the device which in turn stops a machine. It operates from a 117-volt a.c. 50-60 cycle voltage source and its output has both normally open and normally closed contacts so that an external circuit can be used to stop or start machinery and operate other devices.

R. G. Genzlinger, Inc., Neshaminy, Pa. (Item 3)

Emergency Lock Release

Mounted over the hasp and padlock is a special metal case with glass door. In an emergency, a tap



on the glass breaks it and a spring immediately forces open the hasp below. No key is necessary, although for ordinary use, usual keys may be used.

To discourage unauthorized entry, provision is made for the emergency lock to be connected to an alarm bell, siren, or light—any one of

which operates when the glass is broken by the attached hammer. It may also be hooked in with any burglar system at a local plant, police or fire protection center.

The emergency lock may be quickly installed, and is fully guaranteed. All hardware is of rust-proof finish, the box itself is finished in red enamel. The device is available for either right or left hand operation, and may be used on swinging or sliding doors.

American Alsafe Co., Inc., 1245 Niagara St., Buffalo 14, N. Y. (Item 4)

Polyethylene Dispenser

Designed to encourage decentralization of cleaning facilities, this dispenser made of unbreakable, corrosion-proof polyethylene, and fitted with a synthetic rubber nozzle delivers metered amounts of waterless skin cleaner. The amount of cleanser dispensed is calculated to thoroughly



clean most soiled hands. Withdrawal of the measured quantity is accomplished by simply squeezing the pliable nozzle between the fingers. Swivel mounting mechanism is provided for up-ending the container when refilling.

Installed in production areas, the dispenser is said to provide 60-second hand cleaning near machine or work, instead of six minutes' average time spent away from work areas when conventional central washroom facilities are used. The dispensers may be used with a waterless liquid containing lanolin and similar emollients and hexachlorophene to guard against dermatitis, drying and chapping.

Hammons Products, Inc., 1143 Wildwood, Fort Wayne, Ind. (Item 5)

Conductivity Testing Device

The Stat-i-Test is a new electronic development for testing conductivity to ground of personnel or equipment. Underwriters' Laboratories approved as a portable device, the tester may be moved to any location where there is a standard 110 volt outlet. It is applicable to all types of industry where static electricity may offer an explosion hazard—refineries, laboratories, ordnance plants,

powder works, hospitals, etc. The Stat-i-Test is 47 inches high and the base is 18 inches square. The entire unit weighs 98 pounds, most of which is in the base for rigidity. When greater portability is desired for emergency tests, the jacks from the treadle plates may be unplugged and the head may be taken in one hand. The unit is then complete with the test probes. The 10-inch test probes may also be used at any time as they plug into the panel face. Resistance is measured instantly by stepping on the treadle plates. The microammeter measures any resistance from 10 ohms to 15 megohms, and the red and green lights indicate visually the fact, and the microammeter the degree, of conductivity. The unit consumes approximately 27 watts while in operation.

Steele Electronics, Inc., 510 N. Monroe St., San Angelo, Tex. (Item 6)

Bulletin Board

Chrome plated, and with a glass front frame, this new bulletin board is designed for displaying 8½ inch by 11 inch posters, such as produced by the National Safety Council, insurance companies, and other sources. The frame is designed so that it can be "magazine loaded." As many as six posters can be stored in the back of the frame. When a change in posters is desired, it is



necessary only to remove the poster on display. The next poster will im-

mediately be in place. The Dav-Son safety poster frame is available in either single or double frame sizes. It has mitered corners and reinforced backing for long service.

A. C. Davenport & Son, Inc., 311 N. Desplaines St., Chicago. (Item 7)

Non-Slip Floor Wax

Fortified with Mirite, a durable and transparent plastic emulsion, the new Super Westwax contains No. 1 prime yellow carnauba wax, and which dries to a hard sheen without buffing or polishing. Because of the high percentage of solids, a single application is adequate for normal floor protection.

According to its manufacturer, it provides unusual wear resistance, and will not yellow or discolor light colored floors. Occasional damp mopping with plain water restores the finish, and a high lustre can be achieved by subsequent buffing or polishing. It is listed by Underwriters' Laboratories, Inc. as an anti-slip floor maintenance product.

West Disinfecting Co., 42-16 West St., Long Island City, N. Y. (Item 8)

Orthopedic Stretcher

The new Robinson Orthopedic Stretcher permits attendants to carry the injured person to the first aid station without moving him. There is no need to lift the injured person to place him on the stretcher since the "scoop" principle requires no movement of the patient. The stretcher is adjustable to any required length up to 7 feet 3 inches and will support patients weighing up to 300 pounds.

Constructed of tubular steel, the stretcher is lighter than the conventional wooden stretcher, according to its manufacturer.

A. E. Halperin Co., Inc., 75-87 Northampton St., Boston 18, Mass. (Item 9)

Liquid Hand Soap

This new liquid soap, which kills germs as it washes the hands, contains Actamer, a bacteriostat recently perfected by the Monsanto Chemical Company. It is claimed that the regular daily use of "de-germ" liquid soap with Actamer will destroy up to 97 per cent of all bac-

teria on the skin. In addition, the Actamer forms a protective film that keeps bacteria at a low level as long as the regular use is continued.

According to its manufacturer, the soap is mild and non-irritating to normal skin. It has a pleasing fragrance and contains imported olive oil and a soothing emollient. For best results, the manufacturer recommends that this concentrated liquid be diluted before use with two or three parts of water. It is available in 55, 30, 5 and 1 gallon containers.

Huntington Laboratories, Inc., Huntington, Ind. (Item 10)

Safety Glasses

Trade-named Styl-Ize, this new lightweight industrial safety spectacle combines a shatter-proof corrective lens of Optilite in modern shape, plus distinctive colored frames. Features pointed out by the manufacturer are: 5 to 8 per cent



better light transmission; tendency to fog is reduced 60 to 75 per cent; improved appearance; exceptional light weight. The shatter-proof prescription safety lenses are made of Optilite, an exclusive formula of compounded resins. Improved surface hardness increases scratch-resistance, and provides effective protection against common hazards such as hot metal splashes, pitting from flying particles of metal, wood and other impacts. Both frames and lenses meet all Federal specifications.

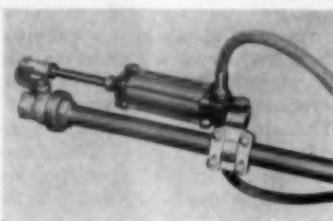
Styl-Ize is the first industrial safety spectacle designed with a modern style frame in a choice of colors. Women's are in the "upsweep" style in choice of burgundy or blue. Men's glasses are available in bronze or slate blue. The lightweight butyrate frames are non-flammable and non-sparking. The spectacles can be supplied to workers in individual corrective prescriptions (single vision and bifocal) and plano.

United States Safety Service Co., Dept. S, Kansas City 6, Mo. (Item 11)

Ball Valve

The Rockwood air-operated ball valve is for remote-control use. It can be installed in elevated or remote locations. Valves installed in danger areas can be safely operated from a distance. The use of control panels for the operation of many scattered valves is practical through the use of this type installation.

Ball valves are available in sizes from $\frac{1}{2}$ inch to 2 inches. Complete units or kits to convert conventional Rockwood ball valves to air operation are available. The following



special advantages are cited: leak-proof service, full round flow, quick opening and closing, no maintenance, and long service.

Rockwood Sprinkler Co., 38 Harlow St., Worcester 5, Mass. (Item 12)

Safety Drill Table

The Safety Drill Table combines a drill table, a vise, a set of parallels, and a V-block in a single unit that replaces the round table on most drill presses. Adjustments do not require special tools.

Models are available for all types and sizes of drills having diameters from 8 inches to $27\frac{1}{2}$ inches and openings from $4\frac{1}{2}$ inches to 12 inches. The wide side opening simplifies the drilling of pieces on the end, such as a shaft, or the holding of large



wheels. The table opens up to almost half of its closed diameter, and holds positively, requiring no set-up time.

Each drill table is furnished with a shank the same size as the one on

your present equipment. The upper end of the shank screws into the safety drill table, while the lower fits into the arm on the drill press.

Modern Machine Tool Co., 2005 Lesey Ave., Jackson, Mich. (Item 13)

Welded Alloy Chain

A new line of high strength, one to two inch, welded alloy chain designed for heavy duty lifting has just been announced. A single branch of the two inch size, for example, is said to have a breaking strength of over one half million pounds. The explanation lies in four important factors: link design, steel analysis, welding technique, and heat treatment of the finished chain.

Trade-name McKay-U-Loy, the chain is made with a short, narrow link design. When used around an object, the short links minimize the bending action of each link and reduce the tendency of gouging the chain. The alloy steel used has a tensile strength of 125,000 pounds



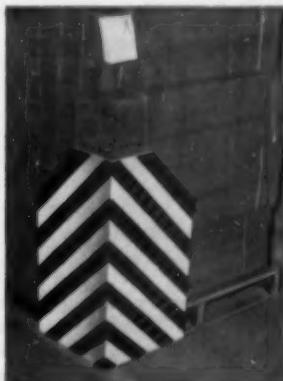
per square inch with a minimum elongation of 15 per cent and a Brinell hardness of 240 to 260.

The illustration shows a 2 inch link prior to being subjected to destruction tests at the Pittsburgh testing laboratories. The right hand illustration shows the U-welded link which withstood a tensile pull of 590,450 before the end sheared.

The McKay Co., McKay Bldg., Pittsburgh 22, Pa. (Item 14)

Steel Corner Plate

The RAN-guard all-steel corner guard is designed to slip under the load, either on the floor or beneath the pallet, so as to prevent acci-



dents and load damage caused when lifts and trucks scrape the corner of a load. These steel gussets are finished in black and yellow baked enamel stripes. In addition to their functional use, they add an attractive, orderly appearance to the plant. They may be used with all types of storage—on skids, pallets, floor, etc.

Randolph Industrial Equipment Co., 9559 W. Grand Ave., Franklin Park, Ill. (Item 15)

Scuff-Proof Safety Shoes

Called the "Armortoe," this new line of safety shoes has a built-in winguard steel box toe to protect the feet of the wearer, and non-sparking brass studs to prevent damage to the vamp leather by cuts and abrasions. There are no edges to catch or snag.

The manufacturer particularly recommends this type of shoe for



employees engaged in coal mining, quarrying, road building, woods and pulp and paper work, foundries, as well as in other types of plants where foot protection is important. In addition to safety toe and brass studs, the shoes have a rot-proof vamp lining, an outside counter pocket, a middle sole, a composition outer sole and a rubber heel. The shoes are available with either nailed or Goodyear welt construction.

Palmer-McLellan Shoe Co., Ltd., Fredericton, New Brunswick, Canada. (Item 16)

Extension Cord Set

The manufacturer contends that this is the first grounded extension cord set in the form of a completely shock-proof, grounded three-wire U-blade extension cord. It has been especially designed to accommodate



the new three-wire caps which will be components of many portable tools and appliances. Features of the set include an armored cap and

connector with metal cord clamps, and a No. 16-3 Type SJ heavy duty wire. Available in lengths of 10, 25, 50 and 100 feet, the extension cords are guaranteed to give dependable service without fear of shocks, and are rated at 15 amperes, 125 volts. The set is Underwriters' listed.

Redole Manufacturing Co., Inc., Emmaus, Pa. (Item 17)

Welding Fume Collectors

This unit is designed to collect and to draw the fumes and heat away at its source by the use of high velocity exhaust hoods with the fan exhausting outdoors. Thus the smoke and fumes are collected before they have a chance to rise and spread throughout the shop atmosphere.

The cone hood has a large opening for collecting fumes. Hoods may be placed 18 inches diagonally above the arc thus ventilating many welding operations without movement of hood. The inlet hood can be located in any desired welding area and stays in position automatically. There are no adjusting screws or other devices required. The standard unit operates on 9 foot maximum radius. A vertical hood movement of 10 feet 6 inches above floor is available when unit is installed as shown in the illustration. Heavy



cast iron swivelling elbow is mounted to the wall, post or ceiling beam, and supports the hose, hood and spring-balance assembly. A wall bracket or ceiling type support is included, and the unit is shipped assembled.

Ruemelin Manufacturing Co., 3860 N. Palmer St., Milwaukee 12, Wis. (Item 18)

Bridge Ramp

A one piece formed lift handle, a new modification on the "One Man" bridge ramp, has been announced by the Elizabeth Iron Works, Inc. The steel handle accommodates the forks of any standard fork lift truck, and is said to withstand heavy use. When not in use, the handles drop into recesses in the ramp riding surface. In raised position, they permit the lift truck to transport the ramp to and from location. The fork lift operator raises and lowers the lift handles with one motion.



With a load capacity of 15,000 pounds, this bridge ramp spans gaps from 5 to 58 inches. It is used between loading platform and freight car or truck.

Elizabeth Iron Works, Box 360, Elizabeth, N. J. (Item 19)

Insulated Safety Shoes

This new type of safety shoe has been developed expressly for hot-mills, refrigeration departments, ice plants, miners, yard gangs, field crews or wherever feet are exposed



to extremes of heat or cold. The entire upper is padded with a thin layer of foamed vinyl that contains millions of tiny "sealed-air" bubbles—the same principle used to insulate the home against winter cold and summer heat.

Vinyl padding is a satisfactory insulating material because it does not absorb moisture, perspiration, oil or odors.

This feature is also available in 8-inch field boot and 12-inch rubber winter-pac. All styles include regular steel toe protection.

Lehigh Safety Shoe Co., Emmaus, Pa. (Item 20)

Wall Fountain

This new semi-recessed wall fountain is made of 18 gauge, type 304, stainless steel, with a No. 4 finish. The drinking faucet head and operating lever are conveniently located on opposite sides of the attractively designed platform. Known as Haws Model No. 73, the new fountain is recommended by the manufacturer for public and office buildings, schools, hospitals and industry in general. An access panel in the wall is not required, although provision for the trap must be made in or

behind the wall. All fittings are accessible from under the bowl and the fact that the fountain is semi-recessed causes it to take up very little space in room or corridor. The angle-stream drinking fountain head is of chrome-plated brass. The operating lever, waste strainer and all lag screws and washers are also



chrome-plated. Water stream is positively controlled by use of a diaphragm type automatic pressure regulating stream control valve.

Haws Drinking Faucet Co., 4th & Page Sts., Berkeley, Calif. (Item 21)

Safety Goggle Demonstrator

The value of safety goggles becomes firmly implanted in a man's mind once he has witnessed the protection afforded by them as demonstrated by this device, which enables the safety engineer or instructor to show a dramatic comparison of the protection afforded by the superarmor-plate lenses as against plain glass.



The instructor places a superarmor-plate lens in the goggle and discharges the BB pistol. The shot, representing emery stone or steel, bounces off the lens with no ill effect. The instructor then inserts the plain glass and discharges the pistol. The shot shatters the glass and drives splinters into the modeling clay eyeball. The instructor can pass the eyeball around to the "students" to show them what happens to unprotected eyes.

This demonstrator was used effectively by Shell Oil Company's Tulsa Exploration and Production

Area to stress the protection offered by safety goggles.

Technical Training Aids, Inc., 8106 E. Admiral Place, Tulsa, Okla. (Item 22)

Transparent Glazing Material

Homalite CR-39, a transparent, scratch and abrasion resistant glazing material, is said to have a broad range of safety applications. The material is made of thermosetting resins, and has good optical and mechanical qualities. It is resistant to chemical action, and is virtually unaffected by welding splatter. In addition, CR-39 is easily machined and has "light-piping" and "edge-lighting" qualities, recommending its



use in instrument panels and faces.

Homalite CR-39 is suggested for use in such applications as safety goggles, shields, instrument faces, grinding wheel guards, windows for viewing dangerous processes, cab glazing on power shovels and cranes, and numerous similar uses.

Homelite Corp., 11-13 Brookside Drive, Wilmington, Del. (Item 23)

Spray-Antiseptic

Cuts, abrasions, and other minor wounds can be quickly and effectively treated with this new polyethylene spray container, containing antiseptic benzalkonium chloride. The wound is sterilized by a general spray or, if necessary, thoroughly flushed clean of impurities by a free-flowing stream of the antiseptic. Requiring no applicator, this convenient container has a plastic cap and holds three and one-half ounces of germicide. It is packaged with an up-to-date first aid manual.

Steri-Spray Corp., Great Neck, L. I., N. Y. (Item 24)

Powder-Form Cleaner

The use of Saf-T-Klenz in clean-

ing shower stalls and swimming pool decks reduces the hazard of slippery floors by removing the grease film. It furthermore minimizes the conditions that breed and spread infectious germs.

This powder-form cleaner, developed especially for these purposes, is simply sprinkled on a damp surface. After a few minutes allowed for dissolving, it is mopped lightly and then flushed with cold water. Algae accumulation, lime deposits, iron rust stains, soap oil and body grease are removed without hard rubbing or scrubbing. Porcelain drinking fountains, wash bowls and toilets are similarly cleaned. The powder contains no caustic, lye, soap or carbonate, and will not injure hands, clothing, floors or drain.

Berman Chemical Co., 761 Superior St., Toledo 4, Ohio. (Item 25)

Safety Shoes

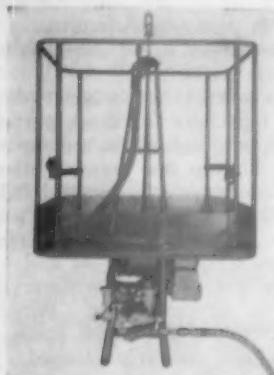
Called the "Softee", this latest addition to the Iron Age safety shoe line features a new type of upper leather called Resitan. This is a soft, pliable tannage impregnated with a new plastic resinous material. Wear tests extending over a two-year period show that it retains its softness even under severe exposure conditions. It is water, oil and acid resistant, and according to its manufacturer, an excellent all-purpose work shoe. The "Softee" also features Biltite green plug neoprene outsoles, Pacific linings, dacron stitching and Barbour storm welts.

Iron Age Div., H. Childs & Co., Inc., Pittsburgh 12, Pa. (Item 26)

Mechanical Stirrups

This manufacturer has just announced a new model of its mechanical stirrups known as the "Climber." It is light in weight (175 pounds), has 150 feet lift at 20 foot a minute and a payload of 400 pounds per unit. Models are air and electric operated. Overall dimensions of the unit are 17 inches wide by 32 inches long and 56 inches high. Rubber tired swivel casters permit easy moving. Other features are $\frac{1}{2}$ h.p. General Electric weatherproof motor and Stearns enclosed solenoid operated brake. Cable drum is grooved for 5/16 inch wire rope with riser strips to properly lay the second and consecutive layers of wire rope. A double reduction worm gear directly connected to the $\frac{1}{2}$ h.p. motor provides ample power. Safety features include a centrifugal brake in the drum, an overload switch that cuts off electric power to the motor. The Climber

lever control switch and motor are wired for dynamic braking and in-



stantaneous reversing of the motor. Illustrated is the Albina Air Climber with a detachable basket and adjustable wall bumpers.

Albina Engine & Machine Works, 2100 Albina Ave., Portland, Ore. (Item 27)

Vacuum Cleaner

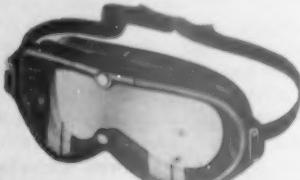
The new Multi-Clean D-100 is said to be particularly suited to cleaning small offices, showrooms, stores, and shops. Weighing only 29 pounds, it features an all-steel welded tank which has a 3½ gallon capacity or near one-half bushel of dry material. Other features include a ½ h.p. Universal motor that will develop a 71 inch water lift. The power unit is constructed with ball bearings permanently sealed in lubricant and no further lubrication is necessary.

An automatic device protects the motor against damage from accidental flooding during wet pickup. Before the tank can be filled to the danger point, the safety fuse stops all further pickup until the tank is emptied and the fuse replaced. Mounted on four free-turning casters, the D-100 moves freely in any direction. The cord is 30 foot, 18 gauge, 3 conductor SJ cable with built-in strainreliever.

Multi-Clean Products, Inc., 2277 Ford Parkway, St. Paul, Minn. (Item 28)

Multi-Purpose Goggles

Rubber mounted, and designed with one-piece replaceable heavy 040 lens of impact resistant acetate, the Multi-Purpose Goggle incor-



porates wide angle vision with comfort as straps terminals are out of

line of sight and flexibility of strap suspension delivers a better fit. Special lens composition and 060 pre-formed lenses are available on request, and have replaceable fabric filters, or wire screen filters as specified. The goggles are said to provide good protection against chemical splashes, spray, dust concentrations and foreign particles.

Welsh Manufacturing Co., 11 Magnolia St., Providence, R. I. (Item 29)

Work Clothes Cleaner

Oakite Composition No. 75, a single-package material, has been designed specifically for use in the laundering of heavily-soiled clothes and overalls where regular cleaning materials are frequently supplemented by additions of clay-type ingredients or fillers to facilitate thorough removal of heavy oil, grease, and soil deposits. This composition is a light tan, freeflowing powder possessing a pleasant pine oil odor and good rinsability in hot water. It is added to the laundry wheel on the basis of weight of the load, with concentrations ranging from 1 to 2 pounds per 100 pounds of work, depending upon the degree of soil present.

Oakite Products, Inc., 114D Recor St., New York 6. (Item 30)

News Items

Industrial Crane and Hoist Corp., manufacturers of overhead crane, jib cranes and monorail systems, on November 1 occupied new enlarged office and plant facilities at 1536 South Paulina Street, Chicago 8. For the past 10 years, the company has been located at 315 North Ada Street, Chicago.

Paul W. Pearson, president, states that with 160,000 square feet of space now available and with installation of considerable new machinery and equipment the company has more than doubled manufacturing capacity for its expanded line of cranes.

* * *

Opening of another new branch at 36561 Plymouth Road (corner Raleigh) on November 8, is announced by the Boyer-Campbell Company, to serve northwest Detroit and the suburban areas in this direction within a radius of Ann Arbor with a complete line of industrial and safety equipment and supplies. This is the third branch that this organization has opened within the last year. The general offices and principal warehouse are at 6540 South Antoine Street, Detroit 2.

* * *

Acme Protection Equipment Company has just moved its general of-

fices and factory from Chicago to new headquarters in South Haven, Mich., according to G. M. Glidden, president.

This move is in line with the company's expansion program to step up gas mask and canister production and service to distributors and users. The new plant provides 10,300 square feet, more than triple the space formerly available for production. The new building, on a five-acre tract, is the first plant to be opened in South Haven's new 50-acre industrial development. Now in operation, the plant is located at 1201 Kalamazoo Street, South Haven.

* * *

The appointment of G. F. Ryan to the post of sales manager of the New York District for Leschen Wire Rope Division, H. K. Porter Company, Inc., has been announced by D. W. Vernon, Vice President and General Manager of Leschen. Mr. Ryan, who has had five years' experience in wire rope selling, will be in charge of Leschen's sales activities in New York, New England, New Jersey, Maryland, and eastern Pennsylvania. Ryan served with the U. S. Air Force as a flying officer during World War II, and attended the University of Buffalo.

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TRADE PUBLICATIONS

These trade publications will keep you up-to-the-minute on new developments in safety equipment and health products. All catalogs are free, and will be sent without obligation. Just circle publication number on the Reader Service Postcard.



1. Wire Rope and Sling Handbook: This 186 page, spiral bound handbook presents a complete listing of wire rope, aircraft cable, slings, swaged-assemblies, and fittings. Along with data on uses, maintenance and other helpful information. The handbook is completely tab-indexed with detailed sectional sub-indexing, and includes dictionary of wire rope terms. Macwhyte Company.

2. Exhaust Purifier: A catalytic exhaust, a device for removing carbon dioxide to permit the safe indoor operation of gasoline engines, is illustrated and described in this folder. The exhaust is available installed on new equipment or can replace present mufflers without difficulty. Oxy-Catalyst, Inc.

3. Folding Stretcher: Pamphlet features a folding stretcher and accessories as complete emergency unit. Can be used as splint, and has attachments which allow for traction, permit application of Eve method of resuscitation, and body straps for raising victim out of enclosed places. Uses of unit pictured and explained. Medford Manufacturing Co.

4. For Efficient Air Control: Sectional Catalog 20 contains a working file of data on manufacturer's air control products. In it, sections are devoted to couplers, blowguns, hose and fittings; air ejection sets; pneumatic press controls; air cylinders and operating valves; four-way valves; and miscellaneous air control equipment. A Schrader's Son.

5. Wire Rope Blocks and Sheaves: Catalog 300-24A describes and illustrates the manufacturer's complete line of precision made wire rope blocks and sheaves. Sizes and capacities to handle any hoisting requirement—from 1½ ton snatch blocks to gigantic 500 ton multi-

sheave special blocks described. American Hoist & Derrick Co.

6. Resistant Welding: Featured in this 24-page catalog are newly-designed tips and holders recently added to company's equipment. Full information is also given about other holders, tips, seam welder wheels and shafts and bushings, in manufacturer's line, as well as flash, butt, barrel and other welding dies. Ampco Metal, Inc.

7. Washroom Layouts: Blueprint drawings of industrial and institutional washroom layouts are shown in this booklet. Provides a general discussion of washroom planning, also roughing-in data. Bradley Washfountain Co.

8. Improved Dust Filters: Sixteen-page bulletin 528-R gives information on continuous automatic dust filters that can be furnished housed or unhoisted for use on pressure or vacuum. Explains principles of cleaning the filter cloth with high pressure reverse jet air, and tells where these filters are being used. Provides comparative test data on these and other type filters; discusses industrial dust control service offered and diagrams some installations. Self-adjusting blow rings furnished with these filters are described in detail. The Day Co.

9. Retractile Cords: This 8-page bulletin presents retractile cords for general communication and power applications. Containing catalog data and ordering information as well as application photos, explains how the cords are made, where used, and advantages offered. Koiled Kords, Inc.

10. Safety Helmet Signs: A self-sticking accident prevention sign for use on safety helmets is described in this bulletin. Because the signs

are "worn" on the helmet, the safety message is at the eye level of every other worker. W. H. Brady Co.

11. Winterizer: Literature describes winterizers for cold weather use with company's safety hats and caps, arc-welding helmets, headrest goggles and eyeshields. These winterizers are of strong, sanforized twill, lined with soft, warm, napped flannel. Jackson Products, Inc.

12. Driver Training and Testing: Catalog of devices and visual aids for over-the-road and in-plant drivers. Includes psychophysical testing equipment for reaction time, depth perception, visual acuity, field of vision and color recognition. Also shown are stopping distance meters, safety awards, traffic slide rules, training boards, etc. Porto-Clinic Instruments, Inc.

13. Silence Service for Industry. A booklet describes the new standardized acoustic panels and tells how these panels can be used to silence noise in a wide range of industry, from power plant transformers to all phases of machinery. Industrial Sound Control, Inc.

14. Work Clothes: Subject of this catalog is a line of work clothing made from acid and chemical resistant fibers. The clothing is said to outlast regular work clothing many times, and to be grease, dirt, sunlight, mildew, moth and ultra-violet ray resistant. Charts show resistance to various chemicals. Worklon, Inc.

15. Vacuum Hand-Pump: Literature discusses the specifications, use and safety aspects of a vacuum pump for transfer of liquids. Three models are illustrated. All are said to reduce fire hazards, keep liquids

Continued page 128

off the floors, and speed up transfer in liquid handling. Fluid is also kept clean. Tokheim Oil Tank & Pump Co.

16. Protective Equipment. Illustrates and gives specifications for various types of work gloves: rubber, rubber-coated, plastic-coated, steel reinforced, leather, welders', asbestos. Also describes safety leggings, finger guards, aprons, gauntlets and safety hats. Scientific Industrial Supply Co.

17. Dust Collectors: Complete list of dust collectors described in 16-page catalog. Cabinet and cyclone type collectors, exhausters, and accessory equipment shown. Many illustrations, sketches, and specification charts, as well as a guide to the selection of equipment needed. Torit Manufacturing Co.

18. First Aid Kits: Wide variety of first aid kits for general and specific uses covered in this bulletin. Kits for aircraft, buses, individuals, and small groups are described. Diagrams show how to use various medications and bandages. Pac-Kit Co.

19. Safety Drill Tables: Drill table here described combines a drill table, a vise, a set of parallels and a V-block in a single unit. Replaces table on your present press. Wide side opening solves problem of drilling pieces on end. Modern Machine Tool Co.

20. Hand Trucks: New catalog-bulletin shows all features and models of Mogcon hand trucks. The features of the truck are lightness, the heaviest truck weighing only 22 pounds, and with a 500 pound capacity. The catalog uses actual photographs to show design, construction features and on-the-job application. Magnesium Company of America.

21. M I Rapper for Cotterell Precipitator: 6-page bulletin describing the M I Rapper, a device for automatic and continuous cleaning of the collection electrodes in a Cotterell electrostatic precipitator. The bulletin includes a schematic diagram of the rapper, an explanation of its basic operating principles, illustrations of its components, and a summary of its features. Research-Cotterell, Inc.

22. Safety Ovens: Ovens are often required to dry, sterilize or age materials which have a high content of explosive vapors or a possibility

of chemical reaction going out of control inside the oven. A comprehensive report is available which discusses the safety hazards presented by typical laboratory ovens and the features incorporated to safeguard against fires and explosions and to shield and protect personnel using them, should an explosion or fire occur. Electric Hotpack Co., Inc.

23. Electric Flare: Bulletin describes the No. 408-F electric flare (flashing or steady), a combination emergency light and signal flare, which operates on two standard 6-volt lantern batteries. A barricade flasher is also described. Specifications and accessories listed. U-C-Lite Manufacturing Co.

24. Protective Clothing: 4-page bulletin features aprons made of neoprene latex for use against oils, acids, etc., also aprons made from hycar rubber for use in coal tar solvents, oils, acids, etc. Also featured are leggings, sleeves and spats. H. M. Sawyer & Son Co.

25. Waste Receptacle: A 3-color folder describes a new Solar Jet waste receptacle. Literature contains sketches illustrating how the stainless steel dome top, which swings freely inside the container, makes waste disposal possible from any direction; gives dimensions of the two sizes available; and lists suggested locations for this receptacle. Solar-Sturges Manufacturing, Division of Pressed Steel Car Co., Inc.

26. Steel Car Loading Ramp: Bulletin describes steel car loading ramps with capacities of 15,000 pounds, available in a wide range of sizes to meet every loading operation. Also featured are steel truck loading ramps made in capacities from 4,000 to 8,000 pounds; are 48 inches wide and in lengths from 36 inches to 72 inches, with a special design to accommodate trucks which are higher or lower than dock level. Bulletin emphasizes such features as modern design, all-welded construction, safety side guards, etc. Penco Engineering Co.

27. New Safety Products Folder: A 4-page, two-color folder showing the complete range of company's safety products. This attractive and informative folder contains full information on construction, uses, specifications, and lists prices of the approved Justrite safety cans, oily

waste cans, and portable safety lights. Justrite Manufacturing Co.

28. Frictionless Hook Scale: Bulletin M-25 describes Martin-Decker's SU-20 Sensater, a new kind of friction-free hydraulic hook scale that is made in models with capacities up to 20,000 pounds, yet has a small headroom loss and is light enough to be easily handled by one man. Martin-Decker Corp.

29. Floor and Stair Treads: 24-page booklet called "Jal-Tread and Junior Jal-Tread" gives detailed information concerning methods of safe-guarding floors and stairways by installation of anti-slip metal treads. Pictures show how treads may be installed. Jones & Laughlin Steel Corp.

30. Safety Awards: Plaques, medals and badges for various industrial fields are illustrated and described in this brochure. Identification badges are featured. Williams Jewelry & Mfg. Co.

31. Acetate Frame Goggles: Bulletin describes series of acetate frame spectacle-type goggles with or without side shields. Different types of bridges, eye sizes, lenses and shields listed. Welsh Manufacturing Co.

32. Foam Fire Protection: A question-and-answer pamphlet of 16 pages covering mechanical and chemical foam products and devices. Also describes service offered. National Foam Systems, Inc.

33. Wire Rope & Chain Fittings: Complete 45-page illustrated catalog gives detailed information on safety clips, links, turnbuckles, hooks, sockets, thimbles, eye and ring bolts, shackles and swivels. Specifications included. Thomas Laughlin Co.

34. Wood Orthopedic Shoe: An illustrated folder covers several types of wooden-soled shoes designed to protect a worker's injured foot. A canvas upper that provides firm but comfortable support is attached to the sole. A steel guard is provided in some styles. Also listed are shoe sizes. Reece Wooden Sole Shoe Co.

35. Auto Seat Belts: Literature describes the use of safety belts installed in automobiles and trucks to help reduce injuries and deaths, by strapping the occupant to the seat, which prevents persons from hurling forward against dash or windshield. McJohn Corp.

Continued page 129

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36. Abrasive Floor Coating: Bulletin tells of a non-slip abrasive floor coating in an easy-to-apply paint form in gray, red, black and green. Slip-proof, economical and long-lasting, it is adaptable to all industrial use. Frost Paint & Oil Corp.

37. Porcelain Enamel Safety Signs: Catalog No. P-7 describes and illustrates danger, caution, safety first, traffic, and miscellaneous signs. These signs in appropriate true colors and suitable for inside and outside use, are said to withstand the adverse weather conditions, thus eliminating periodical replacements. Porcelain Metal Products Co.

38. "Breck Industrial Preparation": Booklet discusses industrial dermatitis and describes hand cleaner, Breck PH7 protective cream, water resistant cream, and work cream for use after exposure to degreasing material. John H. Breck, Inc.

39. Safety Shoes: New catalog entitled "Plan with Thom McAn" gives information on how to get workers to buy safety shoes, also explains a 4-way employee purchase plan, plus descriptions of the full line of safety shoes. Thom McAn Safety Shoe Division.

40. Ladders and Shoes: Line of steel-reinforced wood ladders shown in bulletin. Platform ladders, rolling ladders, step platforms, shelf ladders included. Specifications given and all ladders equipped with safety ladder shoes. Shoes, also available separately, are pictured and described. Dayton Safety Ladder Co.

41. Safety Enamel: Described and illustrated in 2-color booklet is an enamel for floors to provide a non-skid surface. Silicon particles suspended in a plastic binder provide the abrasive surface, and corrosion and chemical resistance is said to be high. Applications for concrete, metal and wood surfaces included. Kelley-Mahorney Co.

42. "Kinnear Rol-Top Door": Booklet illustrates and describes Rol-Top doors for commercial and industrial application. Photographs, diagrams and specifications included. Kinnear Mfg. Co.

43. "Automatic Feeds for Punch Presses": Catalog illustrates and describes roll feeds, dial feeds, for all makes of punch presses and straightening machines, air-blast valves, press-vac safety feeders and mechanical pickers. Specification charts included. F. J. Littell Machine Co.

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Printed below are two identical Reader Service postcards—the bottom one for your use; the top one for later readers of this issue. The numbers listed on each card are keyed to products advertised and the new safety equipment and trade publications described on

pages 121 through 129. Just circle the items you want to know more about, and we will ask the manufacturer to send you full information without obligation. Both cards are perforated for easy removal, and no postage is required.

New Safety Equipment

Products featured in this section have been carefully reviewed by Council engineers so as to bring you only what's new and reliable in the safety field. Only new safety and health products, or newsworthy improvements in existing equipment are eligible for listing.

Trade Publications

Here's a wealth of helpful trade literature—catalogs, spec sheets, booklets, brochures—that will help you compare before you buy. Whether you are in the market now, or think you may be at a later date, you'll want these valuable references in your safety equipment data file.

Products Advertised

As you read through this issue of the NEWS, you will find advertisements describing equipment that may help you solve some of your accident problems. Instead of making a "mental note," make sure you get full information by circling the corresponding page number on the Reader Service postcard. The letters L, R, T and B locate the ads on the page—left, right, top and bottom. IFC—inside front cover; IBC—inside back cover; BC—back cover.

IMPORTANT—Be sure to fill in your name, organization and address in the space provided on this side of the postcard.

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JAN. 1955

(Good until March 31, 1955)

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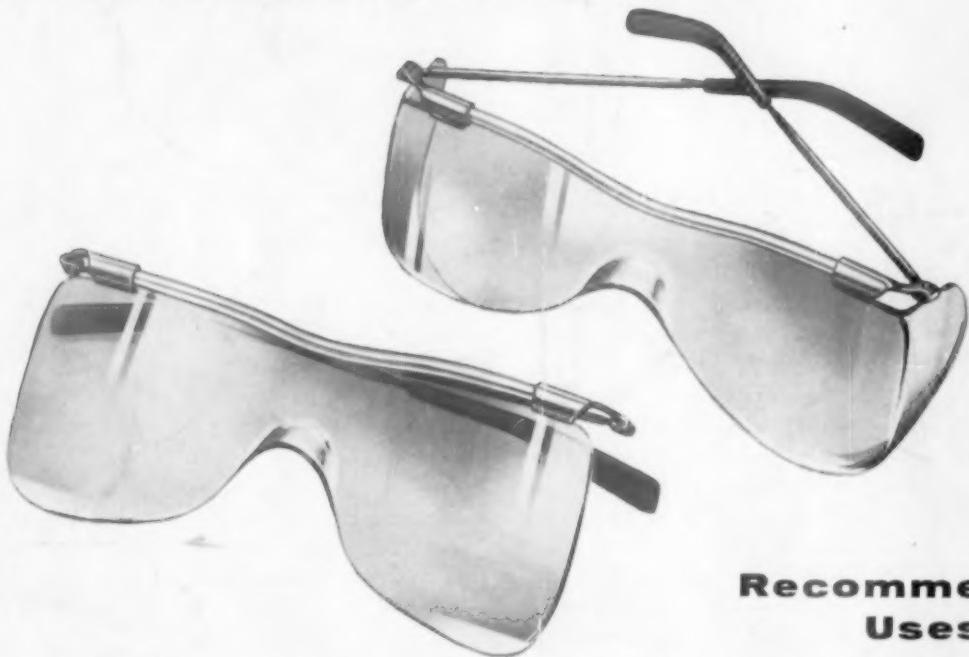
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Lenses, endpieces, and temples can be easily replaced or assembled. One-piece lenses of either clear or green acetate have high impact resistance. Replacement is simple — just slide off the endpieces and reassemble. No. 786 is ideal for use over regular spectacles for temporary or "on and off" wear. Model 787 is identical except that it has side shields for added protection against laterally flying particles.

Recommended Uses

(1) For light grinding, light machining, spot welding, woodworking, yard work where dust hazards exist, and for protecting R Safety Glasses or regular glasses.

(2) For plant visitors and others who may be exposed to eye hazards for short periods.

Keep an adequate supply of these goggles (and extra lenses) on hand always for good fitting. Check with your nearest AO Safety Products Representative.

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